ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE WESTWARD REGION, 1992

By

Westward Region Shellfish Management Staff

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OVERVIEW

The Alaska Department of Fish and Games' (ADF&G) Westward Region includes the Gulf of Alaska south of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, the Kodiak Island and Aleutian Islands group and the Bering Sea northeast from the U.S.-Russian convention line of 1867 to Norton Sound (Figure 1). Encompassed is 525,000 square miles of the most productive shellfish habitat in the world. The major commercial shellfish fisheries are king crab (three species), Tanner crab (two species), Dungeness crab and scallops. Minor fisheries occur for Korean hair crab, shrimp, clams, octopus and sea urchins.

The regional ADF&G office is in Kodiak with a field office in Dutch Harbor. This report documents shellfish activities in the Region which are in progress year around. ADF&G fishery biologists are charged with state management and research programs associated with all commercially utilized stocks of shellfish. The full-time management staff consists of eight biologists, one secretary and one field office assistant. Approximately 12 seasonal personnel are hired for shellfish assessment cruises, logbook programs, shipboard observations, interviews, dockside sampling, data entry, secretarial assistance and overseeing the floating processor observer program.

In 1992, approximately 500 catcher vessels, 36 catcher processors, 24 shorebased processors and 21 floating processors engaged in harvesting and processing shellfish resources (Table 1). The 1992 Westward Region crab landings of 370 million pounds were worth $285 million, exvessel value (Table 2). The leading fishery was Tanner crab with landings of 350 million pounds worth $211 million. King crab was the second most valuable fishery worth $73 million. The scallop resource yielded approximately $2 million to the fleet.

There was just a small regional shrimp harvest in 1992 (Table 3). Poor production in recent years discouraged fishermen and processors from fishing in 1992. The results of a 1992 shrimp survey, which was conducted in historically important areas indicated that shrimp stocks were extremely depressed. A slight improvement over recent years was noted on deep grounds over 90 fathoms but overall levels are still far below those experienced a decade or two ago.

The 1992 king crab harvest was approximately 19 million pounds (Table 4). The red king crab seasons were closed once again in Kodiak, Alaska Peninsula and Dutch Harbor. These areas have been closed continuously since 1983. The Department has surveyed these areas to assess the populations which continue to show little or no recruitment.

The largest red king crab fishery in the state was in Bristol Bay (Figure 2). Although the fishermen harvested 8.0 million pounds worth $40 million the prognosis is not bright. The outlook for that population is low and declining. There has been no significant recruitment of juveniles in recent years. The harvest projection for the Bristol Bay red king crab fishery will be announced after the 1993 summer trawl survey.

The 1992 Tanner crab season produced 350 million pounds, (Table 5) which was 95% of the 1991 record catch. The catch was comprised of 85% *Chionoecetes opilio* Tanner crab. The

outlook for *C. opilio* stocks indicates a high population, but declining due to passage of strong year class. Expect future near term decline followed by another increase in several years as another strong cohort matures. *C. bairdi* stocks, while small in a historic sense are healthy, and the harvestable stock is expected to remain stable in most areas.

The 1992 Dungeness crab harvest was 1.7 million pounds. (Table 6) This was similar to the previous season catch of 1.5 million pounds. The Kodiak district produced the majority of the harvest in 1992.

In September 1988 the Alaska Board of Fisheries adopted the mandatory observer requirement for vessels processing king and *C. bairdi* crabs. The Board adopted the same requirements for *C. opilio* processing vessels in September 1990. The regulations required industry to fund the observers which are provided by a third party contractor and certified by the Department of Fish and Game.

The observer program has been active for over four years with observers participating in nine fisheries annually. Data indicate that observer presence onboard has deterred the taking of undersized crab on catcher processors. Details of the program are discussed later in this report.

Table 1. Shellfish processors operating in the Westward Region during the 1992/93 fishing seasons.

Location	Company	*Products	Superintendent
Kodiak	Alaska Fresh Seafoods	KTMD	Dave Woodruff
	All Alaskan Seafoods	KTMD	Gary Taylor
	Alaska Pacific Seafoods	TMD	John Sevier
	Cook Inlet Processing	KTMD	Tim Blott
	East Point Seafoods	KTMDS	Jim Major
	Emerald Island Seafoods	KMTD	Chris Schopen
	Great Northern Sea Prod. Inc	M	Larry Nelson
	King Crab Inc	KTMD	Mike Robinson
	Kodiak Seaside Seafoods	TMD	Wayne Selby
	North Star Seafoods	M	Sylvia Guild
	Ursin Seafoods	KTMD	Marty Eaton
	Western Alaska Fisheries	KTMD	Ken Allread
Sand Point	Trident Seafoods	TD	Paul Pagette
King Cove	Peter Pan Seafoods	KT	Mark Hanson
Akutan	Deep Sea	KT	Mick Marsh
	Trident	KTM	Brett Joines
Dutch Harbor	Alyeska Seafoods	KTM	Frank Kelty
	Westward	KT	Rick Petre
	Royal Aleutian Processors	KTMD	Mike Newkirk
	Arctic Star (Icicle)	KTM	Mike Clutter
	East Point Seafoods	KT	Lewis Seutz
	San Souci Seafoods	KTMD	Nakata San
	Unisea, Incorporated	KTM	Steve Stubbe
St. Paul	Unipac	KTM	Julie Shane
FLOATER PROCESSORS			
	Alaskan I	T	
	All Alaskan	KT	
	Alaska Packer	T	
	Aleutian Falcon	T	
	Bering Star	T	
	Blue Wave	KT	
	Clipperton	KT	
	Coastal Star	KT	
	Galaxy	KT	
	Independence	T	
	Mr. B	T	
	Northern Alaskan	T	
	Northland	T	
	Ocean Phoenix	T	
	Ocean Pride	T	
	Omni Sea	T	
	Sea Alaska	KT	
	Snopac	T	
	Steller Sea	KT	
	Tempest	KT	
	Yard Arm Knot	KT	

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Location	Company	*Products	Superintendent
CATCHER PROCESSORS			
	Alaska Voyager	S	
	Alaskan Enterprise	T	
	American Empire	K	
	Arctic Discovery	KT	
	Artic Orion	KT	
	Arctic Rose	M	
	Baranof	KT	
	Bering Empire	KT	
	Bountiful	T	
	Courageous	KT	
	Deep Sea Harvester	KT	
	Evening Star	T	
	Glacier Enterprise	KT	
	Gulf Wind	KT	
	Jacquelyn R	K	
	Karla Faye	KT	
	Kiska Enterprise	KT	
	Mr. Big	M	
	Northern Enterprise	T	
	Northern Glacier	S	
	Odyssey I	KT	
	Olympic	KT	
	Pacific Orion	KT	
	Pacific Wind	KT	
	Patricia Lee	K	
	Pavlof	KT	
	Pro Surveyor	T	
	Royal Enterprise	KT	
	Royal Prince	S	
	Seawind	KT	
	Sjovind	KT	
	Southern Wind	KT	
	Tradewind	M	
	Tremont	S	
	Western Enterprise	T	
	Westward Wind	KT	

* K = King Crab T = Tanner Crab S = Shrimp
D = Dungeness M = Scallops, Clams, Haircrab, Octopus, Urchins

Table 2. Westward Region king crab, shrimp, Tanner crab and Dungeness crab pounds, price per pound and value to the fishermen since, 1950-1992.

Year	SHRIMP # [b]	SHRIMP Price [c]	SHRIMP Value [d]	KING CRAB # [b]	KING CRAB Price	KING CRAB Value [d]	TANNER CRAB [a] # [b]	TANNER CRAB Price	TANNER CRAB Value [d]	DUNGENESS CRAB # [b]	DUNGENESS CRAB Price	DUNGENESS CRAB Value [d]	TOTAL # [b]	TOTAL Value [d]
1950				2.1										
1951				.8										
1952				.7										
1953				3.3										
1954				6.6										
1955				5.5										
1956				10.9										
1957				12.3										
1958				12.4										
1959				16.4										
1960	3.4	.039	.13	30.4	.085	2.58							33.9	2.71
1961	11.0	.04	.44	38.6	.095	3.66							49.6	4.10
1962	12.6	.04	.50	49.5	.10	4.95				1.9	.09	.17	64.0	5.62
1963	10.1	.043	.43	66.8	.10	6.68				2.4	.09	.21	79.3	7.32
1964	3.9	.04	.15	91.8	.10	9.18				4.2	.09	.38	99.9	9.71
1965	13.8	.04	.55	138.2	.128	17.68				3.3	.12	.40	155.3	18.63
1966	24.1	.045	1.08	136.2	.11	14.90				1.2	.13	.16	161.5	16.14
1967	39.6	.045	1.78	103.4	.26	26.88	.1	.07	.007	6.6	.13	.86	149.7	29.53
1968	39.7	.04	1.58	69.0	.26	17.94	2.7	.10	.27	8.0	.14	1.12	119.4	20.91
1969	45.0	.055	2.48	54.7	.28	15.32	8.5	.11	.64	3.8	.16	1.08	115.0	19.82
1970	68.2	.04	2.73	49.9	.30	14.97	11.3	.11	1.24	5.7	.14	.80	135.1	19.74
1971	88.6	.04	3.54	52.8	.39	20.59	9.8	.11	1.07	1.4	.18	.25	152.6	25.45
1972	78.0	.04	3.12	70.4	.55	38.72	15.6	.13	2.03	2.1	.40	.84	166.1	44.71
1973	117.8	.08	9.42	69.3	.45	31.18	38.0	.17	6.46	2.2	.50	1.10	247.1	48.16
1974	104.0	.08	8.32	94.3	.45	42.43	43.4	.20	8.68	.8	.47	.38	242.5	59.81
1975	92.1	.08	7.37	96.7	.66	63.82	33.2	.17	5.64	.6	.61	.37	222.6	77.20
1976	119.3	.10	11.93	101.4	1.37	138.91	64.8	.20	12.96	.08	.15	.01	285.6	168.81
1977	110.6	.13	14.38	94.6	1.34	126.76	86.4	.33	28.51	.1	.30	.03	291.7	169.68
1978	64.2	.165	10.59	119.9	1.60	191.80	114.3	.43	49.15	1.3	.75	.98	301.4	253.16
							1.7	.38	.64					

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Table 2. (page 2 of 2)

Year	SHRIMP # [b]	SHRIMP Price [c]	SHRIMP Value [d]	KING CRAB # [b]	KING CRAB Price	KING CRAB Value [d]	TANNER CRAB [a] # [b]	TANNER CRAB Price	TANNER CRAB Value [d]	DUNGENESS CRAB # [b]	DUNGENESS CRAB Price	DUNGENESS CRAB Value [d]	TOTAL # [b]	TOTAL Value [d]
1979	44.6	.225	10.03	151.6	.95	144.02	84.2	.55	46.30	1.4	.75	1.05	314.0	211.06
							32.2	.30	9.66					
1980	43.1	.29	12.49	189.6	1.05	199.08	4.0	.55	35.20	2.0	.45	.90	338.20	255.97
							39.5	.21	8.30					
1981	21.5	.27	5.81	85.3	2.0	170.60	49.3	.65	32.05	5.6	.70	3.92	214.40	226.08
							52.7	.26	13.70					
1982	11.2	.27	3.02	38.5	3.75	144.48	34.2	1.65	56.43	5.3	.75	3.98	118.5	229.19
							29.3	.73	21.38					
1983	2.8	.35	.98	25.0	3.00	75.00	31.4	1.25	39.25	5.90	1.05	6.20	91.3	130.60
							26.2	.35	9.17					
1984	2.9	.33	.95	17.1	2.75	47.02	18.8	1.10	20.68	6.0	1.40	8.40	70.8	86.22
							26.0	.30	7.80					
1985	1.2	.20	.24	20.4	2.50	51.00	18.4	1.50	27.60	4.6	1.20	5.52	109.1	103.71
							64.5	.30	19.35					
1986	.5	.25	.13	17.3	3.50	60.50	13.2	1.90	25.08	1.2	1.15	1.38	128.7	144.99
							96.5	.60	57.90					
1987	0.0	0.00	0.00	27.3	3.50	95.46	7.6	2.11	16.02	1.7	1.25	2.07	138.5	189.98
							101.9	.75	76.43					
1988	Confidential			20.0	3.98	79.37	9.9	2.36	23.40	2.3	1.06	2.44	167.6	209.86
							135.4	.77	104.25					
1989	0.0	0.00	0.00	22.7	4.02	91.07	14.0	2.94	41.17	3.1	1.10	3.40	189.3	247.74
							149.5	.75	112.10					
1990	0.0	0.00	0.00	34.7	4.21	145.93	28.2	1.91	53.86	3.0	1.51	4.55	227.6	307.74
							161.7	.64	103.40					
1991	0.0	0.00	0.00	28.3	2.94	83.25	42.0	1.14	48.02	1.5	1.50	2.04	400.4	297.64
							328.6	.50	164.30					
1992	Confidential			19.1	3.79	72.56	34.3	1.55	53.21	1.7	.86	1.43	370.4	284.85
							315.3	.50	157.65					

[a] *C. bairdi* and *C. opilio*
[b] Millions of pounds
[c] Dollars
[d] Millions of dollars

Table 3. Historic domestic trawl shrimp catch, Alaska Westward Region, 1960-1992.

Calendar Year	Kodiak	Chignik	South Peninsula	Aleutians	Total
1960	3,379,000				3,379,000
1961	11,083,500				11,083,500
1962	12,654,300				12,654,300
1963	10,118,500				10,118,500
1964	3,946,900				3,946,900
1965	13,810,500				13,810,500
1966	24,097,100				24,097,100
1967	38,722,100	879,900			39,602,000
1968	34,468,700	1,153,700	4,137,400		39,759,800
1969	41,243,600	419,900	3,365,600		45,029,100
1970	62,369,300	1,226,800	4,634,700		68,230,800
1971	82,153,724	987,900	5,532,400		88,674,024
1972	58,352,319	4,829,800	14,740,800	94,627	78,017,546
1973	70,511,477	26,884,200	20,022,000	456,179	117,873,858
1974	48,771,375	23,392,400	26,145,900	5,749,407	104,059,082
1975	46,806,799	24,435,400	20,044,400	893,567	92,180,166
1976	51,400,472	27,059,700	37,170,300	3,670,609	119,301,081
1977	31,801,573	27,797,739	46,454,376	4,599,858	110,653,546
1978	22,820,135	22,976,720	11,812,795	6,618,263	64,227,913
1979	14,540,901	23,722,330	3,134,367	3,236,721	44,634,319
1980	27,783,437	12,843,270	C L O S E D	2,479,350	43,106,057
1981	19,030,341	70,948	C L O S E D	2,398,458	21,499,747
1982	10,884,059	0[a]	0[a]	341,551	11,225,610
1983	2,779,030	0[a]	0[a]	5,600	2,784,630
1984	3,023,438	0[a]	0[a]	0[a]	3,023,438
1985	1,159,912	0[a]	0[a]	0[a]	1,159,912
1986	453,468	0[a]	0[a]	0[a]	453,468
1987	0[a]	0[a]	0[a]	0[a]	0[a]
1988	Confidential[b]	0[a]	0[a]	0[a]	Confidential[b]
1989	0[a]	0[a]	0[a]	0[a]	0[a]
1990	0[a]	0[a]	0[a]	0[a]	0[a]
1991	0[a]	0[a]	0[a]	0[a]	0[a]
1992	0[a]	0[a]	0[a]	Confidential[b]	Confidential[b]
AVERAGE (Years Fished)	26,720,606	14,128,629	15,236,533	2,377,888	41,963,058

[a] Season Open - No Catch Reported

[b] Catches by less than three vessels remain confidential.

Table 4. Historic king crab catch by registration area for Alaska's Westward Region (in thousands of pounds), 1950-1992.

Year	K Kodiak	M Alaska Peninsula	O Dutch Harbor	R Adak	Q Bering Sea	T Bristol Bay	Total Westward Region	Foreign	Total
1950	60.0	2,124.0	0	0	0	0	2,184.0	0	2,184.0
1951	200.0	599.0	0	0	0	0	799.0	0	799.0
1952	400.0	298.0	0	0	0	0	698.0	0	698.0
1953	900.0	380.0	0	0	0	2,000.0	3,280.0	11,356.0	14,636.0
1954	4,000.0	317.0	0	0	0	2,329.0	6,646.0	8,086.0	14,732.0
1955	2,000.0	1,641.0	0	0	0	1,878.0	5,519.0	8,693.0	14,212.0
1956	4,800.0	4,221.0	0	0	0	1,896.0	10,917.0	8,308.0	19,225.0
1957	5,000.0	6,687.0	0	0	0	588.0	12,275.0	8,548.0	20,823.0
1958	5,200.0	7,246.0	0	0	0	7.0	12,453.0	8,136.0	20,589.0
1959	10,200.0	6,167.0	0	0	0	0	16,367.0	11,602.0	27,969.0
Subtotal	32,760.0	29,680.0	0	0	0	8,698.0	71,138.0	64,729.0	135,867.0
Average	3,276.0	2,968.0	0	0	1,449.6	7,113.0	9,247.0	13,586.7	
1960-61	21,064.0	6,700.0	0	2,093.7	0	598.0	30,456.5	24,611.0	55,067.5
1961-62	28,962.9	3,900.0	533.0	4,776.0	0	459.0	38,630.9	40,404.0	79,034.0
1962-63	37,626.7	2,273.0	1,536.0	8,006.5	0	74.0	49,543.2	49,516.2	102,782.2
1963-64	37,716.2	6,539.0	3,893.0	17,903.7	0	747.0	66,798.9	56,671.0	123,469.9
1964-65	41,596.5	14,354.0	13,761.0	21,193.0	0	910.0	91,815.0	63,076.0	154,891.3
1965-66	94,431.0	14,713.0	19,196.0	8,040.0	0	1,762.0	138,142.4	41,405.0	179,547.4
1966-67	73,817.8	22,577.0	32,852.0	5,883.1	0	997.0	136,126.9	43,998.0	180,124.9
1967-68	43,448.5	17,252.0	22,709.0	16,948.9	0	3,102.0	103,460.4	32,528.0	135,988.4
1968-69	18,211.4	10,944.0	11,300.0	19,874.8	0	8,687.0	69,017.2	27,681.0	96,698.2
1969-70	12,200.5	4,137.0	8,950.0	19,055.4	0	10,403.0	54,745.9	14,113.0	68,858.9
1970-71	11,719.9	3,425.7	9,652.0	16,057.0	NF	8,559.2	49,913.6	12,930.0	62,843.6
1971-72	10,884.1	4,123.1	9,391.6	15,475.9	NF	12,995.8	52,869.7	6,188.0	59,057.7
1972-73	15,479.9	4,069.3	10,450.4	18,724.1	NF	21,744.9	70,490.7	4,721.0	75,211.7
1973-74	14,397.3	4,260.6	12,722.7	9,741.5	1,276.6	26,913.6	69,331.8	1,279.0	70,610.8
Subtotal	409,076.3	103,389.0	114,730.0	123,778.3	0	27,739.0	778,737.6	394,003.2	1,176,463.6
Average	40,907.6	10,338.9	12,747.8	12,377.6	0	2,773.9	77,873.8	39,400.3	117,646.4

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Table 4. (page 2 of 2)

Year	K Kodiak	M Alaska Peninsula	O Dutch Harbor	R Adak	Q Bering Sea	T Bristol Bay	Total Westward Region	Foreign	Total
1974-75	23,582.7	4,572.1	13,991.1	2,775.0	7,107.3	42,266.3	94,274.0	2,618.0	96,892.0
1975-76	24,061.6	2,605.3	15,906.6	437.1	2,433.7	51,326.2	96,747.4	0	96,747.4
1976-77	17,966.8	958.8	10,198.4	2.3	8,356.1	63,919.7	101,399.8	0	101,399.8
1977-78	13,503.6	726.3	3,684.4	953.0	8,201.8[a]	69,967.8	94,567.9	0	94,567.9
1978-79	12,021.8	3,093.8	6,824.1	807.2	10,387.7[a]	87,618.3	119,933.7	0	119,933.7
1979-80	14,608.9	4,453.5	15,010.9	490.7	9,230.3[a]	107,828.0	151,647.4	0	151,647.4
Subtotal	158,226.6	32,288.5	107,832.2	65,463.8	46,993.5	493,138.8	901,176.0	27,736.0	928,912.0
Average	15,822.6	3,228.9	10,783.2	6,546.4	6,713.4	49,313.9	90,117.6	5,547.2	92,891.2
1980-81	20,448.6	5,080.6	19,053.6	1,478.4	11,543.8	129,948.5	89,668.8	0	189,423.3
1981-82	24,237.6	3,147.5	5,231.1	2,843.0	13,772.5	33,591.4	85,291.4	0	85,291.4
1982-83	8,729.2	1,627.7	1,616.2	9,708.1	13,447.3	3,001.2	38,497.8	0	38,497.8
1983-84	111.4[b]	CLOSED	1,810.0	10,109.6	11,701.9	CLOSED	25,463.1	0	25,463.1
1984-85	22.2[b]	CLOSED	1,521.1	5,508.7	4,701.3	4,182.4	17,115.2	0	17,115.2
1985-86	63.6[b]	CLOSED	1,968.2	11,931.0	2,959.8	4,174.9	20,405.4	0	20,405.4
1986-87	146.5[b]	CLOSED	1,869.2	13,510.2	1,262.1	11,393.9	17,308.5	0	17,308.5
1987-88	67.2[b]	CLOSED	1,383.2	3,190.0[c]	2,200.9	12,289.1	19,130.4	0	19,130.4
1988-89	2.8[b]	CLOSED	1,545.1	9,571.1[d]	1,488.3	7,387.8	19,955.1	0	19,955.1
1989-90	*	CLOSED	1,852.2	9,251.9[d]	1,428.2	10,264.8	22,657.8	0	22,657.8
1990-91	*	CLOSED	1,718.8	9,606.3	1,725.3	20,362.3	33,412.7	0	33,412.7
1991-92	0	CLOSED	1,447.7	6,128.7[d]	3,372.1	17,177.9	28,126.4	0	28,126.4
1992-93	*	CLOSED	1,357.0	7,248.1[d]	2,474.0	8,043.0	19,122.1	0	19,122.1
Subtotal	54,047.6	9,855.8	42,373.4	100,085.1	71,477.5	261,816.9	536,234.7	0	536,234.7
Average	4,503.9	3,285.3	3,259.5	7,698.9	5,490.3	20,139.8	41,248.8	0	41,248.8

*Confidential catch

[a] Fishing year - July 1 through June 30

[b] Brown Crab

[c] Through January 31

[d] Calendar year

Table 5. Westward Region historic Tanner crab *C. bairdi* and *C. opilio* catch (in pounds) for Alaska, 1965-1992.

Year[a]	Kodiak	Chignik[b]	South Peninsula	Eastern Aleutians	Western Aleutians	Bering Sea *C. opilio*	Bering Sea *C. bairdi*	Total U.S. Harvest	Total Foreign Harvest
1965	0	0	0	0	0	0	0	0	3,936,000
1966	0	0	0	0	0	0	0	0	7,290,000
1967	110,961	0	5,000	0	0	0	0	115,961	24,000,000
1968	2,560,687	0	131,700	0	0	0	17,900	2,710,287	30,940,000
1969	6,796,477	0	644,400	0	0	0	1,008,900	8,449,777	47,668,000
1970	7,749,859	0	2,022,427	0	0	0	1,014,700	11,259,447	47,828,000
1971	7,436,414	152,256	2,140,755	0	0	0	166,100	9,875,888	39,886,000
1972	11,898,054	23,343	3,618,883	0	0	0	107,761	15,662,354	31,186,000
1973	31,113,459	747,788	5,615,563	62,128	168,354	0	231,668	38,008,640	27,886,000
1974	25,479,717	4,202,671	9,503,366	498,836	71,887	0	5,044,197	43,409,968	27,912,000
1975	17,535,844	3,649,444	5,195,800	77,164	3,350	0	7,284,378	33,225,873	18,456,000
1976	23,446,245	6,926,161	11,201,941	534,295	62,180	0	22,341,475	64,818,920	19,286,000
1977	20,720,079	5,672,919	6,773,838	1,301,654	0	0	51,455,221	86,405,326	21,520,173
1978	33,271,472	4,693,830	7,446,270	2,624,016	237,512	1,716,124	66,648,954	116,014,238	33,057,796
1979	29,173,807	2,536,105	8,684,408	1,092,311	197,244	31,102,832	42,547,174	116,411,771	32,914,536
1980	18,623,875	3,517,920	3,961,251	879,807	337,297	39,344,323	36,614,315	103,507,133	15,636,125
1981	11,748,629	3,653,723	3,294,106	654,514	220,716	50,483,055	29,732,086	102,056,808	0
1982	13,756,159	3,240,526	4,589,042	739,694	838,627	29,351,474	11,008,779	63,542,301	0
1983	18,927,061	3,497,370	2,863,798	547,830	448,399	26,128,410	5,273,881	57,686,749	0
1984	14,789,903	659,043	1,789,883	239,395	191,954	26,813,074	1,208,223	45,691,225	0
1985	12,024,553	385,838	2,561,868	165,529	66,549	65,998,875	3,151,498	82,900,497	0
1986	8,974,520	184,907	3,763,761	166,939	72,441	97,984,539	0	109,674,455	0
1987	4,833,473	195,060	2,400,784	160,292	42,761	101,903,388	0	109,535,758	0
1988	3,888,906	183,111	3,328,809	309,918	169,289	134,060,185	2,210,394	144,150,612	0
1989	5,208,999	323,120	1,055,082	328,696	53,181	149,455,340	7,012,965	163,437,891	0
1990	3,456,314	0	0	171,785	48,746	161,742,748	24,549,299	189,968,822	0
1991	1,917,713	0	0	50,038	14,779	328,647,269	40,081,555	370,711,294	0
1992	2,400,213	0	0	98,703	7,825	315,302,034	31,796,381	349,605,156	
TOTAL	337,843,370	44,445,135	92,587,735	10,683,875	3,253,091	1,560,684,980	390,507,804	2,440,131,603	429,402,630
AVERAGE	12,993,976	2,339,218	4,025,553	534,194	171,215	104,045,665	16,978,600	93,851,216	26,837,664

[a] Calendar year
[b] Chignik and South Peninsula catches combined 1967 through 1970.

Table 6. Alaska Westward Region historic Dungeness crab catch (in pounds) by district, 1962-1992.

Calendar Year	Kodiak	Alaska Peninsula	Aleutians	Total
1962	1,904,567	0	0	1,904,567
1963	2,487,512	0	0	2,487,512
1964	4,162,182	0	0	4,162,182
1965	3,311,571	0	0	3,311,571
1966	1,148,600	0	0	1,148,600
1967	6,663,668	0	0	6,663,668
1968	6,829,061	1,259,000	0	8,088,061
1969	5,834,628	1,056,000	0	6,890,628
1970	5,741,438	13,000	0	5,754,438
1971	1,445,864	11,000	0	1,456,864
1972	2,059,536	65,000	0	2,124,536
1973	2,000,526	194,500	0	2,195,026
1974	750,057	0	60,517	810,574
1975	639,813	0	4,408	644,221
1976	87,110	0	0	87,110
1977	113,026	0	0	113,026
1978	1,362,306	0	0	1,362,306
1979	1,313,650	102,320	1,101	1,417,071
1980	2,011,736	0	0	2,011,736
1981	5,566,463	42,296	0	5,608,759
1982	4,546,311	779,600	36,034	5,361,945
1983	4,752,148	1,200,978	8,975	5,962,101
1984	5,304,921	647,497	91,736	6,044,154
1985	4,153,877	462,258	16,750	4,632,885
1986	965,095	179,367	10,897	1,155,359
1987	1,450,983	182,706	26,627	1,660,316
1988	2,125,032	179,022	22,634	2,326,688
1989	3,077,937	[a]	11,124	3,089,061[b]
1990	2,879,955	65,806	17,365	2,963,126
1991	1,414,499	80,248	7,412	1,502,159
1992	1,656,793	[a]	5,649	1,662,442
TOTAL	87,760,865	6,520,778[b]	321,229	94,652,872[b]
AVERAGE (years fished)	2,830,996	386,516[b]	22,945	3,053,318[b]

[a] Catch confidential

[b] Except 1989 and 1992 Alaska Peninsula confidential catch

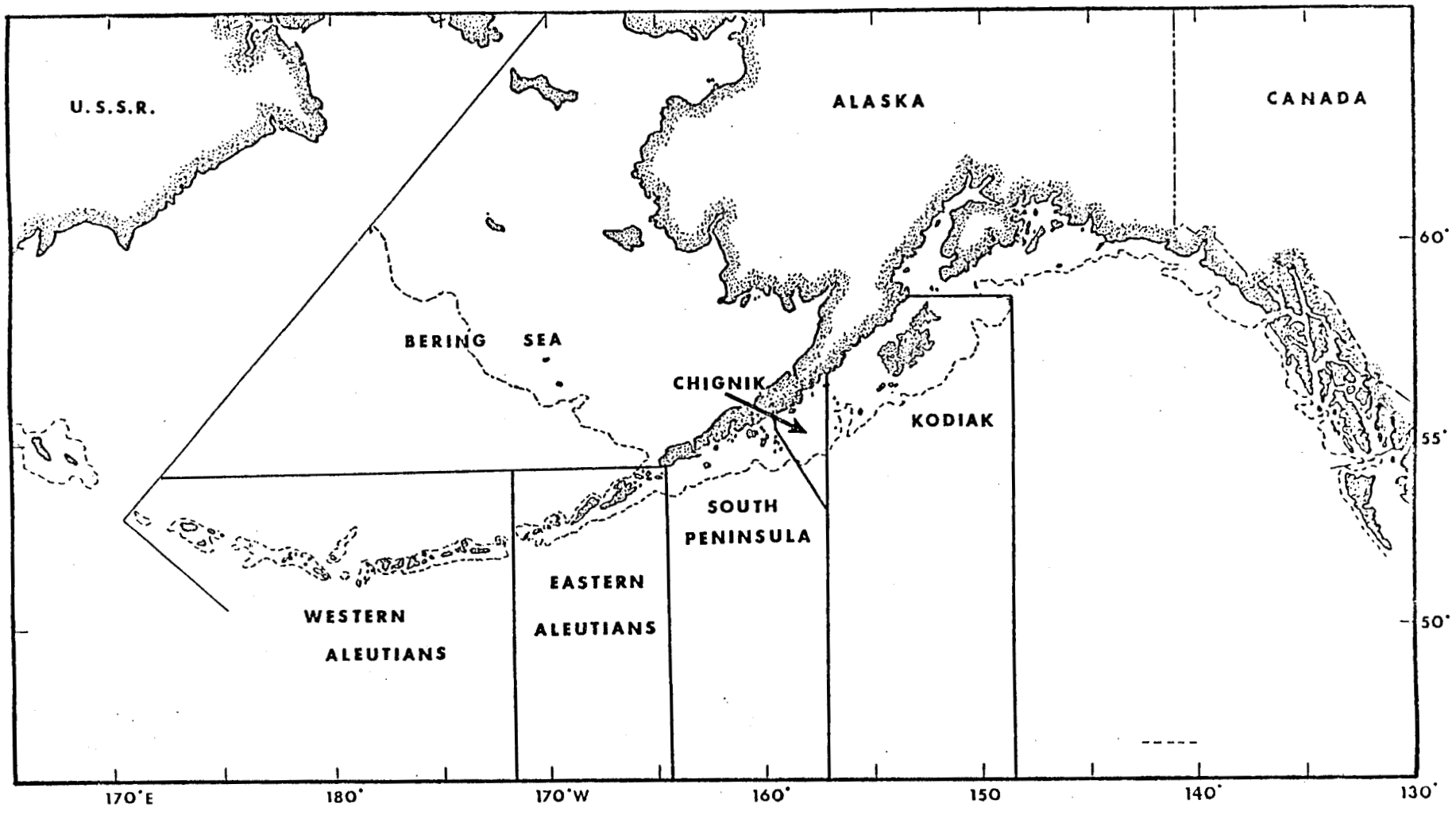

FIGURE 1. TANNER CRAB DISTRICTS— WESTWARD REGION

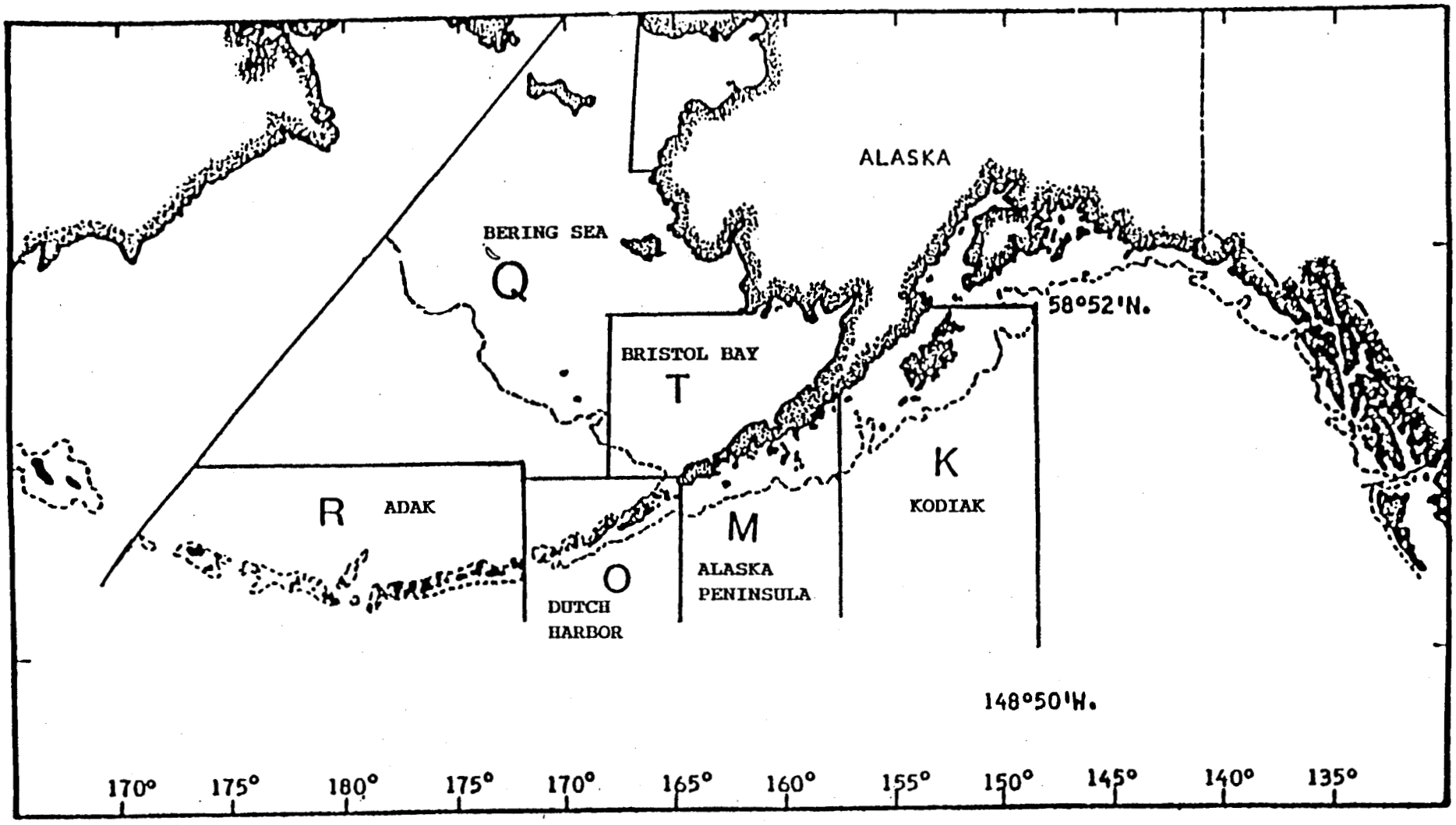

FIGURE 2. WESTWARD REGION KING CRAB AREAS.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE KODIAK AREA, 1992

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KODIAK AREA

Introduction

The Kodiak shellfish management area is located in southcentral Alaska. The area includes Pacific Ocean waters south of the latitude of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, east of the longitude of Cape Kumlik (157°27' W. long.) and west of 148°50' W. longitude. The Management Unit varies slightly for shrimp, where it extends from the latitude of Cape Douglas to the longitude of Kilokak Rocks on the Alaska Peninsula (156°19'25"W. long.). This report reviews the 1991 seasonal shellfish fisheries within the area and provides a synopsis of all landings from within the Kodiak area.

Tanner crab, Dungeness crab, and scallops were the principal commercial species fished during 1992. A small harvest of octopus, sea urchins, sea cucumbers and brown king crab also occurred. The Kodiak Area has had historically important red king crab and trawl pink shrimp fisheries. Current red king crab population levels are depressed to the point of not allowing commercial harvests. Pink shrimp populations are similarly depressed however some areas remain open to exploratory shrimp fishing but effort has been minimal.

Catches are reported by fishermen from individual statistical areas (Figure 1) and summarized by districts or sections (Figures 2, 3 and 4). At the port of Kodiak, 7.3 million pounds of shellfish were landed during 1992, very similar to the 7.6 million pounds the previous year. The 1992 exvessel value of shellfish to the port of Kodiak equaled $14.5 million (Table 1). This included shellfish harvested from other management areas, principally the Bering Sea, and landed in Kodiak. The single most valuable shellfish species delivered was *bairdi* Tanner crab worth $4.1 million.

A discussion of each shellfishery appears in individual sections of this report. Vessels fishing for shellfish in the Kodiak area during 1992 ranged in size from less than 20 feet to over 120 feet in keel length (Table 2). During 1992 a total of three emergency orders were issued for king crab and Tanner crab fisheries in the Kodiak management area (Table 3). Over 30,000 pots were utilized in the last year for Tanner and Dungeness crab fishing (Table 4.)

Table 1. Landings and values of fisheries to the port of Kodiak, 1992.

Species	Pounds[a]	Exvessel Value[b]
Tanner		
C. bairdi	4,111,068	8,750,000
C. opilio	365,162	219,097
Dungeness	1,656,793	1,425,000
Red King Crab	327,795	1,770,000
Scallops	502,334	2,009,000
Octopus	345,029	369,000
Goundfish	233,728,824	34,357,000
Halibut	12,604,000	12,604,000
Salmon[c]	43,650,000	38,843,000
Herring[c]	9,012,000	2,275,000
Sac Roe/Food/Bait		
Total	306,303,005	102,621,097

[a] Represents pounds of product landed at the port of Kodiak including harvests outside the Kodiak management area.
[b] Dollar value to fishermen inseason and does not reflect postseason settlements.
[c] Represents pounds of product harvested in the Kodiak management area.

Table 2. Keel length frequencies of Kodiak District shellfish vessels which made landings during the 1992 Tanner and Dungeness crab fishing seasons.

Vessel Keel Length (feet)	1991/92 Tanner Crab	1992 Dungeness Crab
<20	0	1
20-29.	3	8
30-39.	41	16
40-49.	51	8
50-59.	19	4
60-69.	10	6
70-79.	9	1
80-89.	7	1
90-99.	2	1
100-109.	0	0
110-119.	0	0
120-129.	1	0
130-139.	0	0
140-149.	0	0
≥150	0	0
Total No. of Vessels	143	46

Table 3. Shellfish emergency orders issued for the Kodiak management area, 1992.

Emergency Order	Effective Date	Explanation
Tanner Crab		
4-S-02-92	January 15, 1992	Closed the Southeast, Westside, North Mainland, South Mainland, Semidi Is. and Southwest Sections at 12:00 noon on January 15, 1992
4-S-03-92	January 30, 1992	Closed the Northeast and Eastside Sections at 12:00 noon on February 5, 1992.
King Crab		
4-S-11-92	September 25, 1992	Closed Kodiak red and blue king crab fishing for 1992/93 Season.

Table 4. Vessel and gear effort by fishery and registration year for the Kodiak management area, 1985/86-1991/92.

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
Tanner Crab							
Average pots per vessel[a]	119	109	91	100	113	70	69
Total vessels	233	189	176	171	233	137	143
Total pots on grounds	27,370	20,601	16,016	17,100	26,229	9,560	9,883
	1986	1987	1988	1989	1990	1991	1992
Dungeness							
Average pots per vessel[a]	417	383	424	437	478	449	439
Total vessels	81	45	50	47	62	62	46
Total pots on grounds	33,785	17,220	21,200	20,593	29,625	27,825	20,228

[a] Information from interviews at tank inspections.

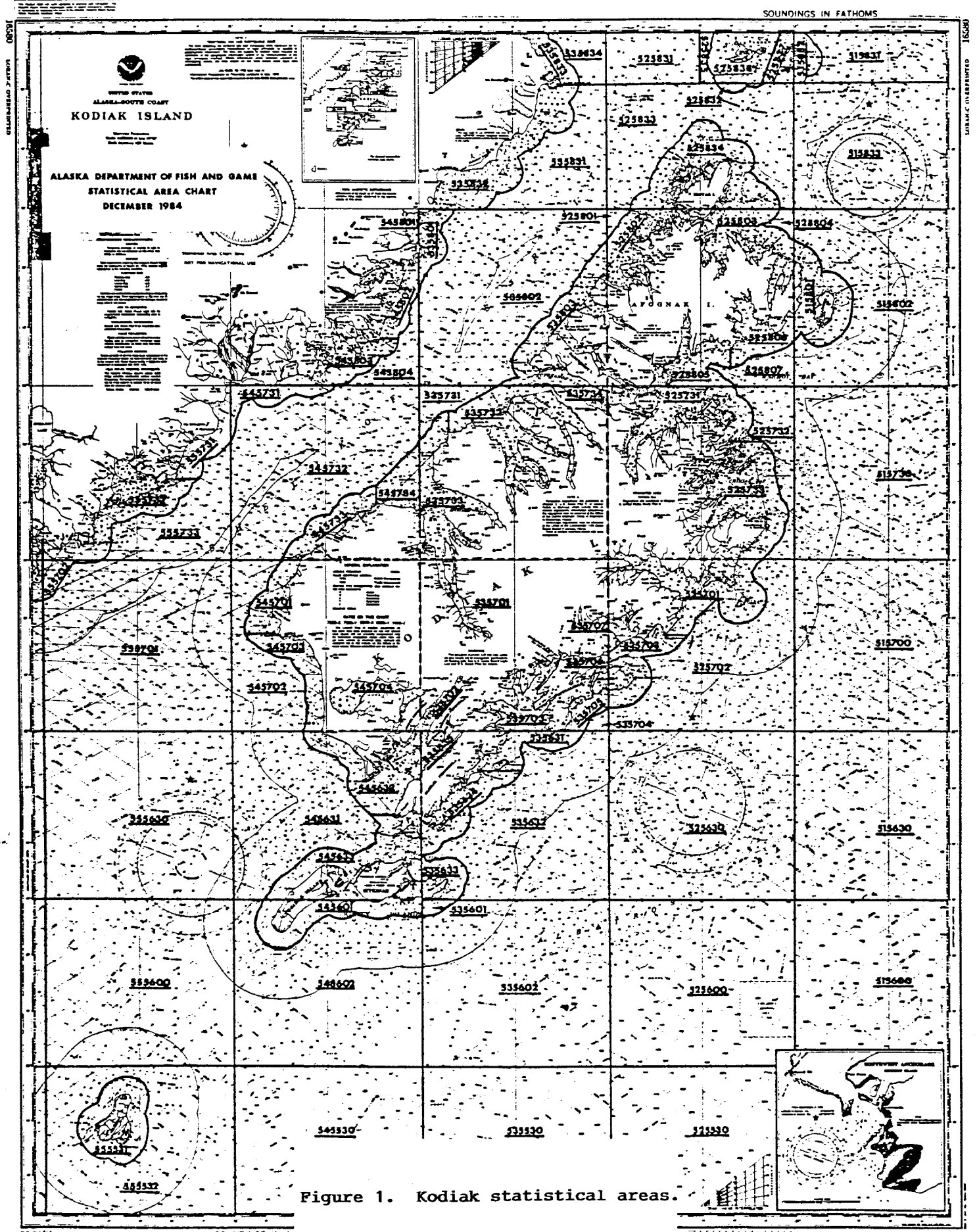

Figure 1. Kodiak statistical areas.

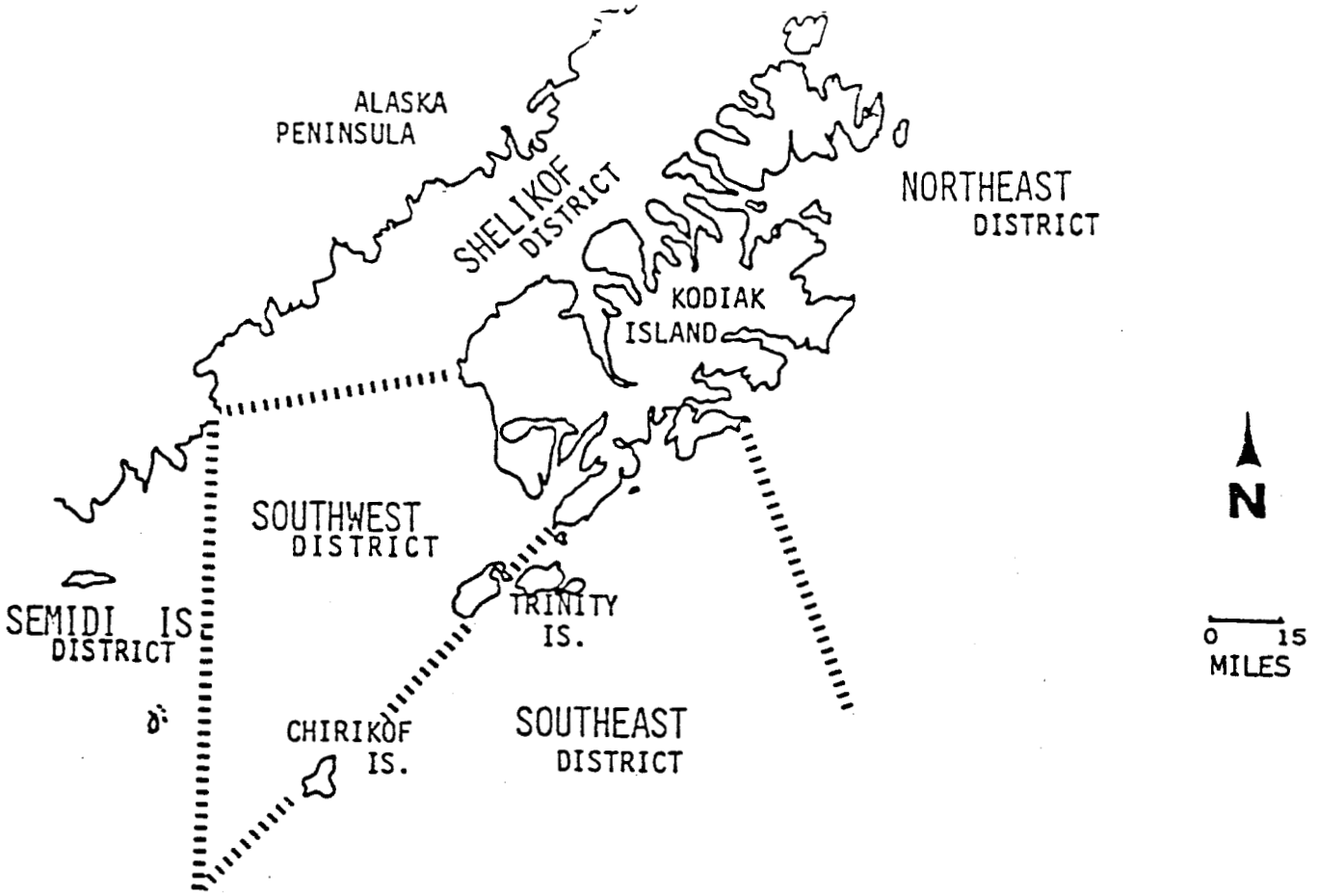

Figure 2. Kodiak (Area K) king crab districts.

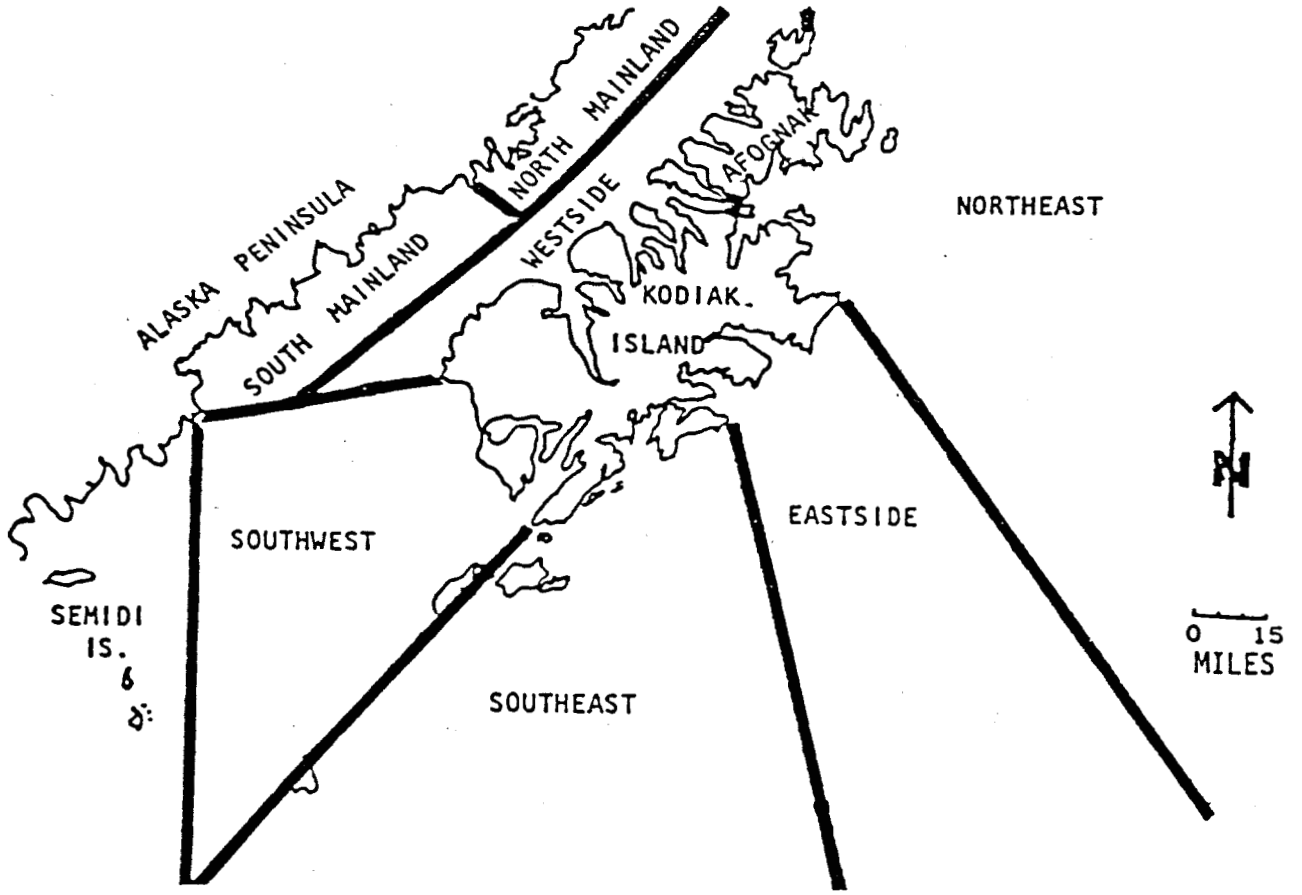

Figure 3. Kodiak District Dungeness crab fishing sections.

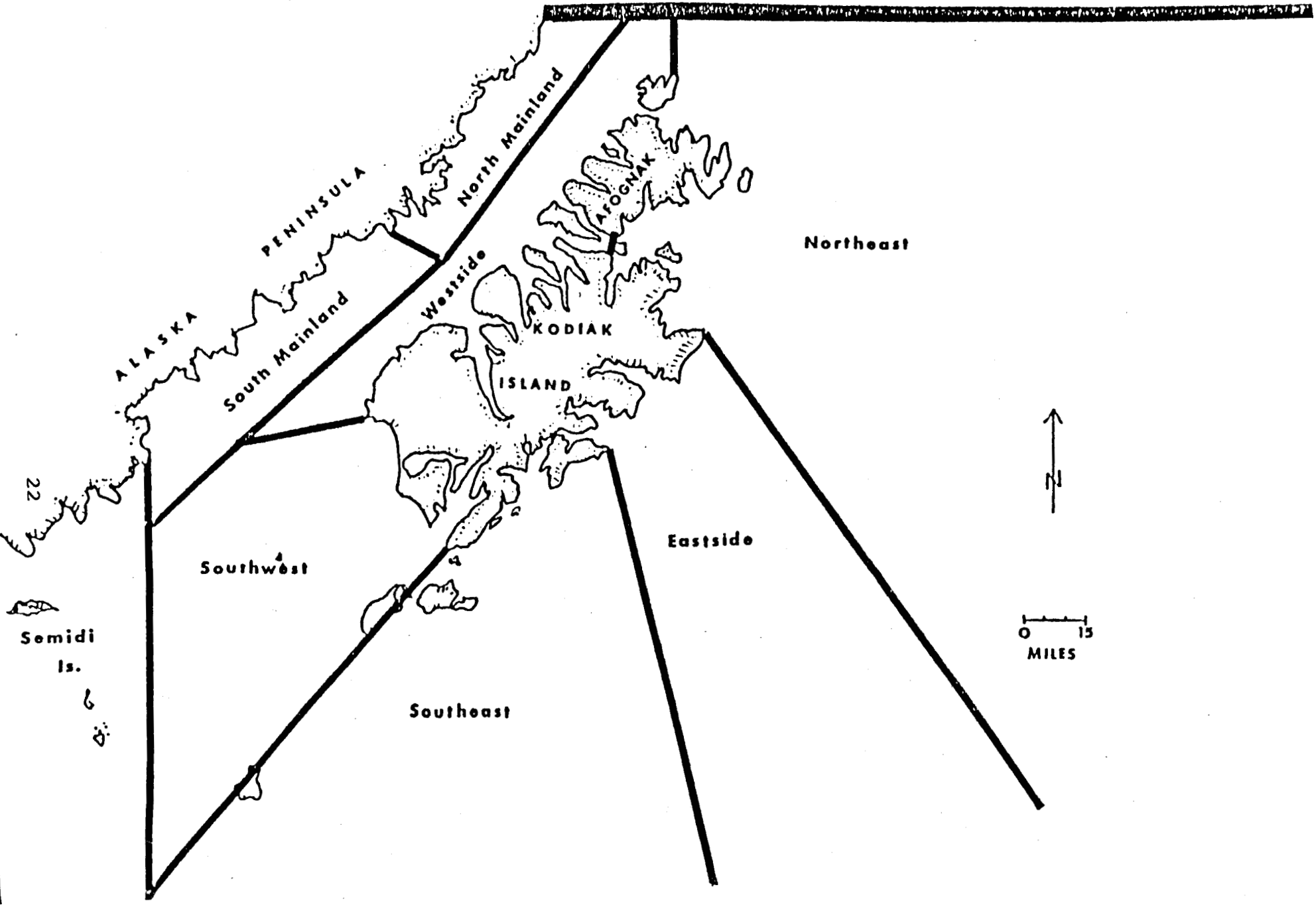

Figure 4. Kodiak District Tanner crab fishing sections.

TANNER CRAB

The Westward registration area for Tanner crab encompasses the waters of the Pacific Ocean south of the latitude of Cape Douglas and west of the longitude of Cape Fairfield and all Bering Sea and Pacific Ocean waters east of the U.S. Russian Convention Line of 1867.

Within this registration area, the Tanner crab stocks are managed by districts. The six districts are Kodiak, Chignik, South Peninsula, Eastern Aleutian, Western Aleutian and Bering Sea. Three districts are managed by the shellfish staff stationed at the Kodiak office. The Kodiak District includes the Pacific Ocean waters south of the latitude of Cape Douglas and east of the longitude of Cape Kumlik. The Chignik District includes all Pacific Ocean waters west of the longitude of Cape Kumlik and east of a line from Kupreanof Point to Castle Rock and east of a line extending 135° from Castle Rock. The South Peninsula District includes the Pacific Ocean waters west of Kupreanof Point and east of the longitude of Scotch Cap Light. The remaining three districts are managed from the Dutch Harbor office.

Historic Background

The domestic Tanner crab fishery for Kodiak and waters south of the Alaska Peninsula began in 1967 when less than the 200,000 pounds were landed. As king crab stocks declined in the late 60's interest increased in the Tanner crab fishery. During this period, fishermen were experimenting with crab pots to increase catches of Tanner crab and decrease incidental catch of king crab. This was accomplished by placing wooden slats in the tunnel eye of the pot to reduce the height of the opening to 4 inches or less to prevent the larger king crab from entering the pot. A newly developed top entry pot had a round fiberglass tunnel opening and was reported to be selective for Tanner crab. While resembling the pot fished by the Japanese in the Bering Sea, this pot is larger and heavier and is not fished with a groundline. A hinged base allowed crab to be dropped directly into vessel live tanks.

Considering the abundance of Tanner crab and availability of fishing gear, the commercial fishery was slow to develop. Four factors contributed to this slow development:

1. Relatively low consumer acceptance of Tanner crab.
2. Competition on the U.S. market from imported Tanner crab meat.
3. A black encrustment on crab shell now known as black mat syndrome.
4. Uneconomical extraction of meat from the shell. Extraction of meat from Tanner crab legs using equipment and methods designed for the larger king crab required a high amount of labor per yield. Shell fragments in shoulder meat required considerable hand labor for removal.

By the 1972/73 season market conditions had improved and Tanner crab had established itself as a dominant winter and spring fishery. In 1973 the department initiated an experimental survey program which used king crab pots as the means of capture. Although the program was designed to assess red king crab populations, Tanner crab work was included due to the fact that they would readily enter king crab pots. The primary goals of these surveys were to estimate the

annual relative abundance of crab and predict recruitment trends two to four years in advance of crab attaining commercial size. These estimates would allow the department to establish annual harvest levels.

During 1974 and 1975 the Alaska Board of Fisheries (BOF) set the first harvest levels on Tanner crab of 35 to 55 million pounds for Kodiak, Chignik and South Peninsula. Also in 1975, the Board adopted an April 30th closure to protect crab at the onset of mating. In 1976 the Board established a 5½ inch minimum size limit. This would allow males at least one full breeding season before becoming available for commercial harvest. The commercial fishery peaked during the 1977/78 season when over 45 million pounds were harvested. In 1978 the Federal Government entered into joint management responsibilities with the State of Alaska on the domestic Tanner crab fishery.

Beginning December 6, 1978, the Tanner crab fishery in the Exclusive Economic Zone off Alaska was managed under a Fishery Management Plan (FMP). The commercial catch began to decline in the late 70's and early 80's. In 1980 the BOF adopted into regulation a 250 pot limit for Kodiak, as the Board was attempting to reduce effort in the fishery. The department began to develop alternative methods of assessing Tanner crab populations. Eight years of pot surveys had been completed by 1980.

It was evident from the catch variations in areas between surveys that the numbers of crab captured were not necessarily comparable. More importantly, small Tanner crabs ($\leq$ 114mm CW) did not enter pots in predictable numbers from survey to survey; thus, little could be determined regarding future recruitment trends. Due to problems in acquiring data on Tanner crab necessary to meet the management objectives from the pot survey, interest was generated in the use of trawls to survey the Tanner crab resource in the Gulf of Alaska as has been done by the National Marine Fisheries Service in the Bering Sea. An experimental program to test this possibility began in 1980. This trawl survey was done in conjunction with the traditional pot survey for red king crabs.

The demand for Tanner crab increased as the price per pound of live crab went from 65 cents per pound to $1.65 per pound. Vessel participation increased as the Tanner crab fishery became very profitable. In 1983, the BOF adopted regulations to designate the South Peninsula and Chignik District as a super-exclusive area. This meant that vessels fishing this area for Tanner crab could not fish Tanner crab elsewhere in the state for that registration year. Additionally, the Board reduced the pot limit in the Kodiak District from 250 pots to 200 pots per vessel.

On February 8th, 1984 a federal judge issued a restraining order restricting the State of Alaska from enforcing the super-exclusive areas in the Chignik and South Peninsula Districts and the 200 pot limit in Kodiak outside of three miles. In order to make state and federal regulations consistent, on February 9 the BOF issued an emergency regulation rescinding the pot limit for Kodiak and super-exclusive registration for Chignik and South Peninsula.

The joint Fishery Management Plan (FMP) was still in effect although there was considerable confusion over the enforcement and effective dates of regulations. The FMP was amended nine times in six years. To achieve conservation and management objectives and to effectively

coordinate management with the State, the FMP adopted many of the management measures employed by the State. However, the FMP did not provide for management based on the best available scientific information or provide for timely coordination of management with the State. At its March 1986 meeting, the North Pacific Fishery Management Council (NPFMC) voted to suspend the implementation of regulations for the Tanner crab FMP. The FMP was repealed at the request of the Council, effective April 1987. Once again, the State of Alaska had sole responsibility for the Tanner crab fishery in the Gulf of Alaska.

In 1990 the BOF adopted a new pot limit for Kodiak. This pot limit was a sliding scale limit that decreased with decreasing harvest projections. When the harvest projection is in excess of 7 million pounds, the pot limit is 150 pots. If the harvest projection is between 3 million and 7 million pounds, the pot limit is 100 pots. The pot limit for harvest projections below 3 million pounds is 75 pots. As crab stocks decreased these pot limits reduced the amount of gear on the fishing grounds and made inseason management less complicated.

The Department has continued to conduct surveys in these areas and has most recently relied on trawl surveys to assess both king and Tanner crab populations. Legal crab populations are low or depressed in most areas, and recruitment for the next two years is not expected to increase. The Department has observed and recorded conditions of female egg clutches since the existence of the survey with no abnormalities observed. Successful reproduction is further substantiated by the high incidence of one and two year old crab captured in the trawl survey. The Department suspects that fish predation on small crab may be a major factor limiting Tanner crab from recruitment. The lastest published survey information can be found in the ADF&G Technical Fishery Report 92-10.

1991/92 Fishery

The Alaska Department of Fish and Game conducted a summer trawl survey in 1991 to assess the Kodiak area Tanner crab populations. Guidelines for commercial fishery harvests were derived from population estimates as determined by the survey. On October 15, 1991, the department issued a news release detailing the harvest projections for the Kodiak Management District and fishing sections within the district.

A guideline harvest level of 2.3 million pounds of Tanner crab was projected for Kodiak. The Northeast and Eastside sections were opened for 500,000 and 1,800,000 pounds, respectively. The remaining sections were closed due to the low abundance of legal-size crab and anticipated poor recruitment for the following year.

The 1991/92 Tanner season opened by regulation on January 15, 1992 (Table 4). Most fishermen did not set baited pots until January 20th, due to price negotiations. Tank inspections began on January 14th at 12:00 noon at Kodiak, Port Lions and Old Harbor.

One hundred forty-three (143) vessels fished for Tanner crab during the 10 day season that closed at 12:00 noon January 30, 1992. A total of 10,345 pots were utilized based on buoy sticker sales. This compares to 9,560 pots registered the previous season and over 27,000 during 1990.

The Northeast section, with a preseason guideline of 500,000 lbs had 67 vessels make landings from that Section. The catch rates started at 20 crab per pot and were generally less than 10 crab per pot by January 25th. A total of 381,512 pounds were harvested at an average weight of 2.52 pounds per crab.

The Eastside sections had a preseason guideline of 1,800,000 lbs. This was based on a 20% exploitation rate. There were 79 vessels that landed 2,018,601 pounds of Tanner crab from the Eastside sections. The catch rates started at 63 crabs per pot and declined to less the 20 crab per pot inside that bay areas. Catch rates offshore remained higher at about 45 crabs per pot through the 25th of January.

The total harvest for the Kodiak District during the 1991/92 was 2,400,113 pounds taken by 143 vessels. At the average exvessel value of $2.21 per pound this fishery was worth approximately $5.3 million to the fishermen.

Stock Status

The Department of Fish and Game conducted a summer trawl survey to assess both king and Tanner crab populations. Two hundred and four tows were successful sampling crab habitat. Of 17,685 male Tanner crab captured, 2,650 were legal-sized animals.

The 1992 population of legal-size Tanner crab is estimated to be 2.5 million crabs for the area surveyed. This represents an approximate 45% decline from levels observed in the previous season, decline was seen in most size and sex ranges of Tanner crabs. The lower numbers of legal-sized crabs was most pronounced in the Eastside Section which dropped from 3.5 million crabs to 800,000. The Southwest, Westside and North Mainland Sections did show modest increases.

The highest populations of legal-sized male Tanner crabs were found in the Northeast, Eastside and Southwest Sections. It was determined that a small fishery could be conducted in these Sections without harming the reproductive potential of the stocks. Harvest guidelines were set at 300,000 pounds for the Northeast Section and 800,000 pounds for the Eastside Section.

In addition the department considered opening the Southwest Section for a harvest of 400,000 lbs. There are serious concerns over the high rates of bitter crab syndrome in Alitak Bay. This is a fatal blood disease found in Tanner crab that leaves the crab with an unpalatable flavor, but is not dangerous to humans. Blood samples taken during the summer survey in Alitak Bay showed the infection rate for this disease to be 18.5%. Parts of Alitak Bay had prevalence rates as high as 38%. The Department will require that all crab harvested in the Southwest Section be processed in the Alitak Bay area, so as not to risk contaminating Tanner stocks in other areas of the District.

Table 1. Commercial catch and effort for the Tanner crab *Chionoecetes bairdi*, Kodiak Management District, 1967-1992[a].

Year	Vssls	Lndngs	Number of crabs[a]	Number of lbs.[a]	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1967	-	83	-	110,961	-	-	-	$ .07
1968	-	817	-	2,560,687	-	-	-	.10
1969	85	955	-	6,827,312	72,748	43	-	.11
1969/70[b]	67	833	3,237,244	8,416,782	78,266	42	2.6	.11
1970/71	82	453	2,686,067	6,744,163	60,967	44	2.5	.11
1971/72	46	505	3,878,618	9,475,902	65,907	59	2.4	.13
1972/73	105	1,466	13,609,688	30,699,777	188,158	67	2.3	.17
1973/74[c]	123	1,741	11,857,573	29,820,899	217,523	59	2.5	.20
1974/75[c]	74	471	5,459,940	13,649,966	73,826	83	2.5	.17
1975/76[d]	104	1,168	10,748,958	27,336,909	199,304	64	2.5	.20
1976/77[e]	102	998	7,830,727	20,720,079	164,213	48	2.6	.33
1977/78[f]	148	1,483	12,401,243	33,281,472	251,621	49	2.6	.43
1978/79[g]	218	1,225	10,702,829	29,173,807	275,455	38	2.7	.55
1979/80[g]	211	1,385	6,813,128	18,623,875	282,946	24	2.7	.55
1980/81[h]	188	771	4,398,631	11,748,629	174,351	25	2.7	.65
1981/82[i]	221	950	5,413,467	13,756,159	230,403	24	2.5	1.65
1982/83[i]	348	1,439	7,744,812	18,927,061	377,562	21	2.4	1.25
1983/84[i]	303	1,229	5,891,968	14,478,066	303,764	10	2.5	1.20
1984/85[j]	214	710	4,567,037	12,024,553	176,830	26	2.6	1.50
1985/86[j]	233	601	3,457,930	8,996,151	160,808	21	2.6	1.90
1986/87[j]	189	503	1,830,365	4,833,473	110,963	16	2.6	2.62
1987/88[j]	176	557	1,614,874	3,888,906	101,488	16	2.4	2.40
1988/89[k]	171	567	2,106,320	5,208,999	86,556	24	2.5	3.05
1989/90[k]	233	548	1,435,477	3,456,314	97,333	15	2.4	2.40
1990/91[k]	137	448	764,107	1,917,713	54,110	14	2.5	1.59
1991/92[k]	143	434	982,391	2,400,213	47,384	20	2.4	2.22
TOTAL	-	-	129,433,394	338,898,828	3,852,486	-	-	-
AVERAGE	164	860	5,627,617	13,034,570	160,520	33	2.6	-

[a] Data Source: Alaska Department of Fish and Game annual Board of Fish and Game Reports and annual Kodiak Area Management Report.
[b] Fishing year July 1 - June 30
[c] Legal season November 1 - June 30, season terminated May 15 due to onset of mating period.
[d] Legal season November - April 30
[e] Legal season January 1 - April 30
[f] Legal season January 1 - May 15
[g] Legal season January 5 - May 15
[h] Legal season January 22 - May 15
[i] Legal season February 10 - May 15
[j] Legal season January 15 - May 15
[k] Legal season January 15 - March 31

Table 2. Tanner crab *Chionoecetes bairdi* catch in pounds by fishing section for the Kodiak Management District, 1982/83-1991/92.

Section	1982/83[a]	1983/84[b]	1984/85[b]	1985/86[c]	1986/87[c]	1987/88[c]	1988/89[c]	1989/90[d]	1990/91[d]	1991/92[d]
Northeast	2,832,979	1,845,103	1,063,906	646,120	613,791	566,129	466,069	499,341	473,591	381,512
Eastside	3,124,031	4,460,775	5,070,112	4,137,703	1,814,094	273,821	606,875	1,049,868	756,848	2,018,701
Southeast	2,371,870	2,290,951	1,977,377	1,660,327	513,058	1,087,696	1,183,098	484,514	450,455	Closed
Southwest	5,587,149	2,240,332	889,176	721,443	475,122	1,143,306	1,703,723	307,427	Closed	Closed
Semidi Is.	907,952	288,998	30,176	40,457	16,336	12,290	[e]	[e]	[e]	Closed
N Mainland	2,042,885	1,449,068	1,717,556	1,445,135	710,730	388,751	1,042,462[e]	824,106[e]	157,072[e]	Closed
S Mainland	149,419	549,712	123,978	85,163	26,434	5,778	[e]	[e]	0	Closed
Westside	1,910,776	1,353,127	1,151,883	259,803	663,908	411,135	206,772	291,058	79,747	Closed
TOTAL	18,927,061	14,478,066	12,024,553	8,996,151	4,833,473	3,888,906	5,208,999	3,456,314	1,917,713	2,400,213

[a] Fishing season February 10 - May 15
[b] Fishing season January 15 - May 15
[c] Fishing season January 15 - March 31
[d] Fishing season January 15 - March 31
[e] North Mainland catch includes South Mainland and Semidi Island catches to protect vessel confidentiality.

Table 3. Tanner crab *Chionoecetes bairdi* catch, landings, vessel effort and catch per pot (CPUE) by statistical subarea for the Kodiak District, 1991/92. Average catch per pot unstandardized for soak period and gear type.

Stat Area	Vessels	Landings	Pounds Harvested	Averge Weight	CPUE
525701	50	113	859,197	2.4	26
525702	34	53	903,565	2.4	28
525703	17	35	169,296	2.5	18
525731	19	49	35,199	2.5	4
525733	46	171	299,644	2.6	13
525805	5	8	16,415	2.4	9
525806	3	4	10,759	2.3	9
525807	3	3	12,713	2.4	10
535706	9	20	39,865	2.5	13
[a]		6	53,460	2.2	14
	143	434	2,400,113	2.4	20

[a] Where number of vessels were less than 3, stat area totals have been combined to protect vessel confidentiality.

Table 4. History of Kodiak District Tanner crab opening and closing dates, 1977-1992.

Year	Opened	Closed
1977	Jan 1	Apr 30
1978	Jan 1	May 15
1979	Jan 5	May 15
1980	Jan 5	May 15
1981	Jan 22	May 15
1982	Feb 10	Apr 13
1983	Feb 10	Mar 14
1984	Feb 10	Apr 1
1985	Jan 15	Feb 18
1986	Jan 15	May 15
1987	Jan 15	Feb 28
1988	Jan 15	Mar 10
1989	Jan 15	Mar 31
1990	Jan 15	Feb 21
1991	Jan 15	Mar 31
1992	Jan 15	Jan 30

DUNGENESS CRAB

Historic Background

The first commercial Dungeness crab (*Cancer magister*) fishery in the Kodiak District was in 1962 with a catch of 1.9 million pounds (Table 1). As a result of favorable market conditions and unexploited stocks, commercial harvest increased to a peak in the four year period from 1967 through 1970 with an average annual harvest of 6.3 million pounds. In 1969 the south end of Kodiak Island (Figure 1) was closed from April 1 to June 15. This was due to the high incidence of female king crab in shallow water during this period of time. During the early 1970's the fishery declined due to biological factors accompanied sometimes by adverse marketing conditions. In the mid 1970's, weak markets and other more lucrative fisheries kept the Dungeness production at a low level. In 1977 the season dates were changed from year around to May 1 through December 31 for the northern portion of the Island. This closure period would require that crab pots be removed from the water and thus would help to reduce the amount of "derelict" gear. Declines in other fisheries and favorable market conditions during this decade encouraged Dungeness fishing.

The 1981/82 harvest of 5.6 million pounds was the largest harvest for the Kodiak area since 1970. Increased effort resulted in the removal of the major portion of postrecruit animals from the stock. As a result production declined to less than 1 million pounds in 1986 for the first time since 1977. The 1987 fishery experienced a modest increase in recruitment as the catch rose with fewer vessels participating. The production again peaked in 1989 with a large portion of the catch comprised of animals newly recruited to the fishery. The average catch per pot in 1989 was the highest since 1981. Although the number of vessels participating since that time has remained steady, the harvest declined to levels experienced during the mid-80's with a similar decline in catch per effort.

1992 Fishery

The regulatory opening of the commercial Dungeness crab fishing season was May 1 for the north end of the district and June 15 for the south end. Both areas remained open until December 31, 1992. A total of 46 vessels made landings harvesting 1,656,793 pounds of Dungeness crab. This is similar to the 1991 harvest of 1.4 million pounds but only half of the 30 year average. (Table 1). The 1992 season catch was valued at $1.4 million with an average price of $.86 per pound. The Southeast Section continued to produce the majority of the harvest (52%) with the 1992 catch at 0.9 million pounds. July, August, and September were the most produtive months (Table 3).

The 1992 season was marked by the discovery of the toxin causing paralytic shellfish poisoning (PSP) in the viscera of Dungeness crab. Whole cook markets were restricted and consumers

where warned of the danger of eating crab "butter". Large west coast inventories coupled with the PSP scare caused the price per pound to drop to it's lowest level since 1982.

Stock Status

No assessment of Kodiak Dungeness stocks is conducted independent of the commercial fishery. Animals newly recruited to the fishery continue to provide the bulk of the commercial harvest (Figure 2).

Table 1. Dungeness crab commercial catch and effort by fishing year for the Kodiak Management District, 1962-1992.

Year	Lndgs	Vssls	Commercial Catch No. Crab	Commercial Catch No. Pounds	Pots Lifted	Avg Lbs Per Lndg	CPUE	Avg Price Per Lb	Exvessel Dollars
1962[a]	149	-	-	1,904,567	-	12,782	-	$ .09	171,000
1963	354	-	-	2,487,512	-	7,026	-	.09	224,000
1964	395	29	-	4,254,565	-	10,537	-	.09	375,000
1965	351	25	-	3,311,571	-	9,434	-	.12	397,000
1966	144	12	-	1,416,174	-	7,976	-	.13	149,000
1967	439	18	-	6,663,668	-	15,179	-	.13	866,000
1968	536	43	-	6,829,061	-	12,741	-	.14	956,000
1969	455	29	-	5,834,628	190,967	12,823	12	.16	934,000
1970	318	33	-	5,741,438	249,800	18,005	9	.14	804,000
1971	173	24	515,653	1,445,864	90,913	8,358	6	.18	260,000
1972	316	34	766,960	2,059,536	140,921	6,517	6	.40	824,000
1973	487	42	879,484	2,000,526	251,467	4,108	3	.50	1,000,000
1974	172	23	337,839	750,057	104,062	4,361	3	.47	353,000
1975	154	15	307,272	639,813	76,411	4,154	4	.61	390,000
1976	6	4	38,072	87,110	4,410	14,518	9	.15	13,000
1977[b]				Confidential					
1978	173	20	618,357	1,362,306	93,633	7,875	6	.75	1,022,000
1979	237	28	595,850	1,311,275	137,951	5,543	4	.75	943,000
1980	197	21	968,829	2,011,736	107,261	10,212	9	.45	905,000
1981/82[c]	466	50	2,614,545	5,566,463	295,138	11,945	9	.70	3,897,000
1982/83[d]	991	111	2,004,075	4,546,311	481,542	4,588	4	.75	3,410,000
1983/84[d]	1,079	103	2,044,505	4,752,148	503,464	4,408	4	1.05	4,989,000
1984/85[d]	1,163	106	2,393,974	5,303,052	627,441	4,564	4	1.45	7,689,000
1985[e]	1,243	125	1,791,446	4,160,435	599,291	3,347	3	1.20	4,992,522
1986	577	81	439,738	967,423	199,881	1,667	2	1.15	1,112,500
1987	379	45	747,117	1,450,983	150,067	3,828	5	1.26	1,828,000
1988	363	50	1,064,387	2,125,114	203,217	5,854	5	1.06	2,253,000
1989	359	47	1,428,973	3,077,937	185,242	8,574	8	1.10	3,385,730
1990	519	62	1,294,241	2,937,306	296,168	5,660	4	1.54	4,435,000
1991	732	62	695,470	1,414,499	279,872	1,932	2	1.37	1,938,000
1992	501	46	805,215	1,656,793	218,602	3,306	4	.86	1,425,000
Average	433	45	1,016,213	2,839,691	228,906	7,689	4	.62	1,679,899

[a] Season open year round 1962 - 1976
[b] Open May 1 through December 31, 1977 - 1980
[c] Open February 27, 1981 through February 1, 1982
[d] Open May 1, 1982 through February 1, 1983
[e] Open May 1, 1985 through December 31, 1985

Table 2. Dungeness crab commercial harvest (in pounds) by fishing section, Kodiak Management District, 1985-1992.

Section	1985	1986	1987	1988	1989	1990	1991	1992
Northeast	346,252	93,428	102,997	149,992	113,211	65,703	266,187	201,984
Eastside	1,564,019	364,635	173,438	177,523	193,200	170,081	141,053	270,370
Southeast	1,156,447	253,179	751,793	1,126,298	2,323,771	2,479,534	805,459	859,492
Southwest	392,233	57,231	84,352	190,280	165,401	101,376	50,183	89,342
N Mainland	342,001	90,783	106,449	97,924[a]	[b]	18,723	36,831	36,202
S Mainland	37,377	6,222	9,990	[b]	0	0	[b]	0
Westside	302,691	101,945	221,964	383,097	282,354[c]	101,889	114,786	199,403
Semidi Is.	1,415	0	0	0	0	0	0	0
Total	4,160,435	967,423	1,450,983	2,125,114	3,077,937	2,937,306	1,414,499	1,656,793

[a] North Mainland and South Mainland catches combined to protect vessel confidentiality.
[b] Confidential
[c] North Mainland and Westside Section catches combined to protect vessel confidentiality.

Table 3. Kodiak Dungeness crab catch statistics for the Kodiak District, 1992. Average catch per pot unstandardized for soak period and gear type.

STAT AREA	NO. VSSLS	NO. LNDGS	POUNDS HARVESTED	AVG. WT.	CPUE	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
525701	9	40	161,203	2.1	4	7,810	22,572	44,837	49,120	20,856	16,008	0	0
525703	6	21	59,389	2.0	4	3,442	6,436	20,206	20,468	8,337	0	500	0
525731	8	82	71,845	1.9	2	10,126	8,738	16,355	17,132	7,472	7,169	4,049	804
525733	18	223	128,048	2.0	2	28,290	24,985	34,724	26,185	9,395	3,585	545	339
535701	5	25	141,384	2.0	2	9,285	5,698	8,652	20,244	47,480	27,028	12,893	10,104
535703	4	16	67,676	2.1	3	6,045	7,142	13,543	21,196	4,924	10,010	4,816	0
535706	3	5	30,542	2.2	4	0	0	6,033	18,135	5,760	0	614	0
535732	3	16	37,090	1.9	3	0	0	0	11,630	9,261	14,039	460	1700
535733	3	3	14,888	2.0	3	0	0	0	5,982	0	8,906	0	0
545601	9	50	660,952	2.1	4	0	42,091	142,513	169,489	186,414	95,373	19,580	5,492
545602	5	10	117,710	2.1	7	0	0	395	0	28,423	70,499	16,488	1,905
545632	6	15	83,395	2.0	3	0	0	55,217	5,089	17,682	5,407	0	0
[a]	19	46	82,671	2.1	3	3,100	8,162	25,016	24,144	3,315	15,528	2,296	1,110
TOTAL	46	501	1,656,793	2.1	3	68,098	125,824	367,491	388,814	349,319	273,552	62,241	21,454

[a] Stat area totals have been combined to protect vessel confidentiality.

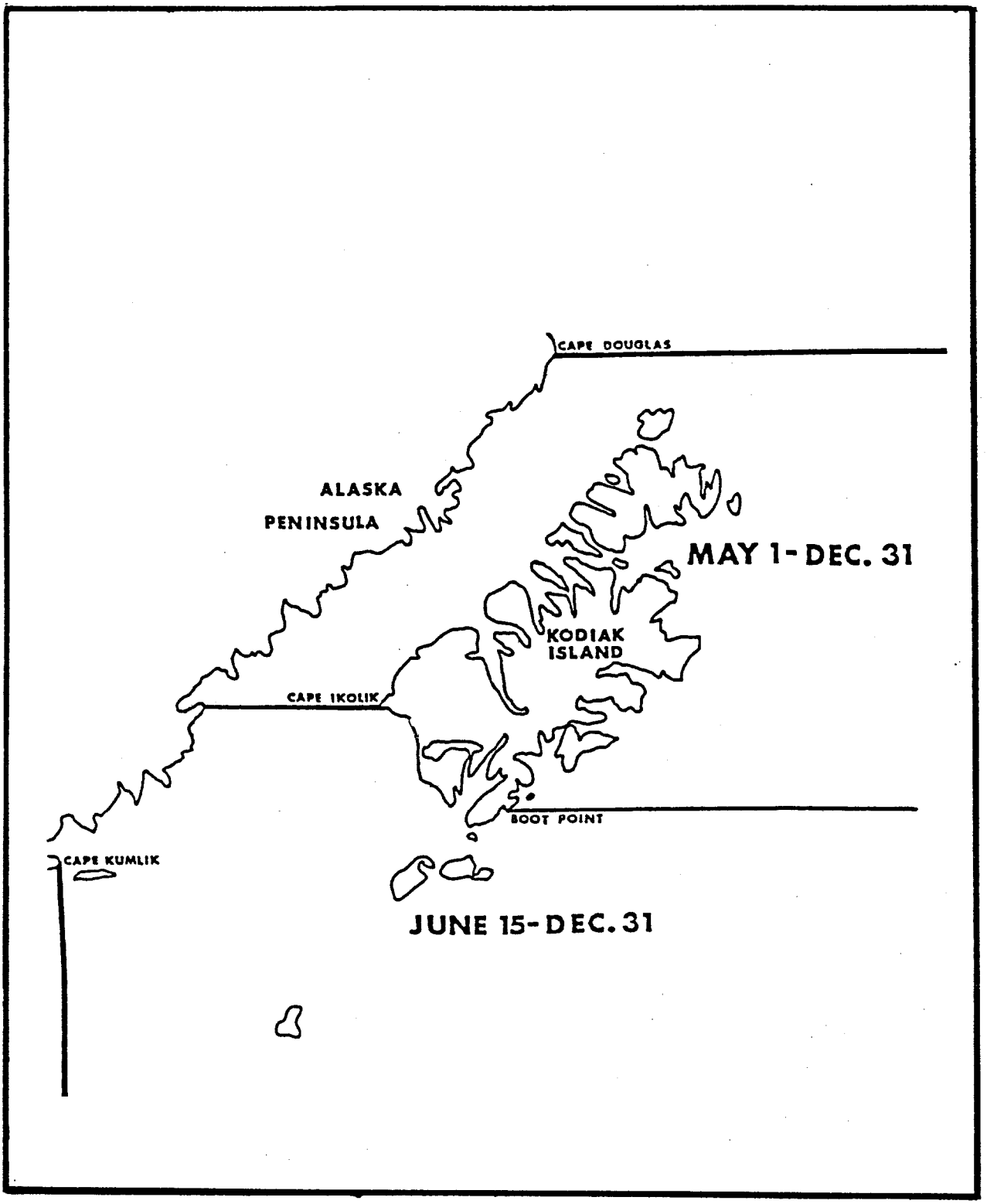

FIGURE 1. KODIAK DISTRICT COMMERCIAL DUNGENESS CRAB FISHING SEASONS.

KING CRAB

Introduction

This report will cover the commercial king crab fishery for Kodiak and the Alaska Peninsula. The Kodiak Management Area has its northern boundary at the latitude of Cape Douglas and a western boundary at the longitude of Cape Kumlik. The Alaska Peninsula Management Area is bordered on the east by the longitude of Cape Kumlik and on the west by the longitude of Scotch Cap Light.

Although this discussion will focus on the development of the commercial fishery and regulatory process in the Kodiak Management Area, the management strategies for the Alaska Peninsula, as well as other areas of the state, were tailored after those developed for the Kodiak Area.

Historic Background

The Kodiak king crab fishery was pioneered by salmon fishermen. Beginning in 1936 small amounts of red king crab *Paralithodes camtschaticus* were landed, but catches were not officially recorded until 1950. This period in the history of the fishery was exploratory in nature. Fishermen were locating crab, determining abundance and testing gear types. Once the resource was determined abundant enough to support fishermen, markets had to be developed to sell the product.

During the exploratory period, the Bureau of Commercial Fisheries (now National Marine Fisheries Service) was the management agency. Regulations in effect during this period provided for retaining only males with a minimum width of 5½ inches. In 1949 the size limit was increased to 6½ inches.

In 1950, over 60,000 pounds of king crab were landed, and the fishery was on its way to becoming a major force in the economy of the Alaska fishermen. From 1950 to 1959 the catch increased from 60,000 to 14 million pounds. During this period, a pot limit of 15 pots for Cook Inlet and area registration were instituted. Also in 1959 pots and ring nets were classified as the only legal gear and a pot limit of 30 pots per vessel was established for Kodiak. As Alaska gained statehood, management authority was transferred to the Alaska Department of Fish and Game.

In 1960 the king crab season was opened year around. Eight processors bought 21 million pounds of king crab at 8 cents per pound from 106 vessels. The months of January and February accounted for approximately 50 percent of the harvest. In 1961 the Department recommended that more research was needed to determine the various stocks breeding habits, age and size of maturity before more regulations were instituted. In 1963 the size limit was increased to 7 inches based on Kodiak area growth rate studies and to allow male king crab to breed at least one year before being available to the fishery. The early sixties saw continued growth in the fishery until 1964 when the Good Friday earthquake slowed production. Even with the earthquake, the 1964 harvest equalled the 37 million pound harvest of 1963.

In 1965 the 30 pot limit was no longer in the regulations. A new shell crab closure went into effect from April 1 to June 15. There were 19 shellfish processors in Kodiak paying 10 cents per pound. The Department had completed king crab tagging studies and had defined four major separate "stocks" of crab. Also in 1965, the staff report to the Fish and Game Board stated that the stocks could not continue to support the large harvests that were then occurring. The staff recommended the implementation of a quota system to curtail the harvest. No numbers were provided by the staff and no action was taken by the Board.

The development period which began in 1950 peaked in 1966, when 177 vessels delivered 90 million pounds to 32 processors in a ten-month fishing season. Catches in January and February accounted for 40 percent of the harvest. From 1965 to 1966, vessel effort and average length increased and there were 37 percent more processors. All these factors combined to produce the peak harvest. In 1966 the Department issued the first emergency order to protect new shell and breeding crab and added its first shellfish management position. After examining 12,000 female king crabs, of which only three to five percent were barren, the Department stated that Kodiak king crab stocks were biologically sound.

From 1967 to 1970 the king crab fishery expanded to offshore areas, in an attempt to maintain the catch levels of previous years. In 1967 the Department started a test fishing program to locate concentrations of prerecruit crab and to estimate future years' production. The first catch projections predicted a continuing decline in future catches. The 1967/1968 season catch dropped to 43 million pounds, 30 million pounds less than the prior year. Also in 1968, females examined from eight different areas showed that 16 percent were not carrying eggs.

During the 1968/1969 season the catch dropped to 18 million pounds, and the fishery was closed by emergency order on February 28. The Department determined that in areas with an intensive commercial harvest, there was a higher incidence of barren females. In some areas 25 percent of the females were barren, with a higher proportion of large females barren than small females. The fishery was still dependent on a weak recruit class.

In July of 1970, the Alaska Board of Fish and Game instituted a pot limit of 60 pots per vessel and established a catch quota system. The Department was directed to institute surveys for abundance estimates. The goals of the policy were twofold:

1. To develop and establish a stable fishery, with the objective of eliminating fluctuating harvests characteristic of the fishery.
2. To develop and maintain a broad base of various age classes in order to insure breeding success.

The department was to present estimates of abundance to the Board, which set the quotas. Quotas were not to be increased unless the Board was notified two weeks in advance. The quotas set by the Board were intended not only to arrest the decline of the king crab fishery but also to return a degree of economic stability and cost effectiveness. Sometimes these quotas resulted in very low fishing mortalities of 20 to 30 percent and carried over large numbers of crabs to following years. This stock pile affect caused extremely short, fast paced seasons. Many areas historically fished later in the year were left unharvested. In 1971 the Board increased the pot

limit to 75 pots per vessel. By 1972 the decline had been reversed and harvests started increasing. The 1973 fishery lasted 10 days under a fixed quota system and the Southern District was reopened for an additional eight day fishery.

In 1974 the Board adopted an 8 inch minimum size limit for a second season, as proposed by the Kodiak Advisory Committee. The purpose of the 8 inch season was to provide a harvest opportunity later in the season for areas that had produced larger crab but had not been fished in recent years. Also, the harvests during the 7 inch season were composed of a larger percentage of postrecruit crab because of the restrictive quotas. It was believed that many of these crab that escaped the 7 inch season would be lost through natural mortality. Since it was indicated that an increase in harvest could be made, the Board took a cautious approach and decided to increase exploitation on the older postrecruit crab. The Board also adopted a flexible system of harvest guidelines rather than fixed quotas. The Board directed the Department to continue to manage the fishery using a multi-age-class management strategy based on analysis of crab stocks.

The harvest guideline system provided a more liberal approach to the harvest strategy. During the 1975/76 fishery the Department tried to maximize the harvest within each district by dividing districts into schools and closing each school when a 33 percent fishing mortality was reached based on tag recovery.

In 1976 the Board adopted a fixed opening date of December 1 for the 8 inch season. The December 1 opening date provided an opportunity for all size vessels to participate in the second season. This second season was soon relied on by a large portion of the fleet, because the additional season allowed a second opportunity to fish and provided an extra stimulus to the local economy.

In 1978 the Board lowered the minimum size limit of the second season from 8 inches to 7½ inches. The Department proposed the change because of the large amount of postrecruit crab available between 7½ and 8 inches that year. The 1978/79 second season recorded a harvest of 1.7 million pounds, similar to the 1.8 million pounds landed in previous years. The lowered size limit increased recruit harvest during the second season from less than one percent under an 8 inch size limit to 15 percent the first year that it was in effect. In 1979 the Board of Fisheries increased the pot limit to 100 pots per vessel. The Board adopted a management plan for Kodiak in 1981. The plan's direction was threefold:

1. Individual stocks of crabs are to be managed as a single unit, and small closures that leave a portion of a stock open should be avoided.
2. Utilization of stocks should be based on overall stock size while considering recruit and postrecruit population levels.
3. A second season for 7½-inch crab will be provided for with an opening between November 15 and December 15.

Also in 1981 the Board increased the pot limit to 150 pots per vessel. The 1981/82 season's harvest was the highest of the previous 14 years at 24.2 million pounds. This was followed by the 1982/83 season harvest of 8.7 million pounds, the lowest in 24 years. Although this season's

harvest was low, the value of the fishery was the second highest, worth $32.7 million. The effort level for this fishery is also the highest on record with 309 vessels participating.

In 1983 the traditional red king crab fishery was not opened by the Department of Fish and Game due to poor stock condition. This was a result of poor recruitment to legal-sized animals for the previous two years combined with continued low recruitment forecast for the next three years. The population of adult male crab was the lowest recorded in 13 years of annual population assessments. The department established threshold levels of legal males needed prior to considering any further fishery. The threshold of 10.3 million pounds of legal crab was nearly twofold the 5.5 million pound estimate of the 1983 survey. Additionally in 1983 the Alaska Board of Fisheries lowered the pot limit to 100 pots per vessel.

In 1984 and 1985 the estimate of legal males on the pot survey remained below the 10.3 million pound threshold level established for Kodiak Island. However, in 1985 the estimate of legal males in the Southwest District was 4.9 million pounds. This was above the threshold value of 3.4 million pounds of legal crab established for the district. The department proposed a 450,000 harvest and presented this proposal to the Kodiak Advisory Committee (KAC). After review of both department and industry views, the KAC voted unanimously to oppose a fishery in the Southwest District. Their concerns were that a small area open with a large effort level would be destructive to the reproductive potential of the stock. The Commissioner of Fish and Game acknowledged the KAC concerns, and the Kodiak king crab fishery was closed during 1985.

During 1986 the fishery again remained closed as the estimate of legal males was below threshold values. The department revised the management plan from a threshold of legal males needed for a fishery to a number of fertilized females needed to maintain maximum reproductive potential of the stocks when populations are depressed. This threshold value for the Kodiak Management Area is 5.1 million fertilized female red king crab.

In 1987 a trawl survey was conducted throughout the management area for the first time to assess both red king and Tanner crab stocks. Previous ADF&G trawl surveys had been limited to Tanner crab assessment in the Shelikof and portions of the Northeast and Eastside Sections of Kodiak Island. Offshore areas of Chignik and Pavlof Bay in the South Peninsula had also been surveyed. This trawl survey estimated a population of 310,000 adult female red king crab around Kodiak of which 47% were not carrying egg clutches. Additionally the estimate of legal males was 177,000 crabs, the lowest estimate in the history of the survey. The 1987 survey results indicated a continuation of the decline in red king crab abundance that had been noted the past five years and the commercial fishery again remained closed.

During 1988 through 1992, the department has continued trawl surveys to assess king and Tanner crab populations with the study areas expanded to encompass the Alaska Peninsula Management Area. The Kodiak Management Area continues to remain closed due to abundance estimates of females well below threshold levels. The Alaska Peninsula Area has also remained closed due to a similarly depressed crab populations.

Complete information on the Westward Region trawl survey catches can be obtained from the department in a series of Regional Information Reports.

Stock Status

The Kodiak red king crab population remains at historically low population levels, and the fishing seasons for this species have remained closed since 1983. One hundred and sixteen male and 50 female king crab were captured having mean lengths of 148.8 mm for males and 118.9 mm for females (Figure 1). The majority were mature. King crab were captured in 13% of the tows. Catches ranged from 1 animal per tow to a high of 57 king crabs in Chiniak Bay. Legal size crabs accounted for 75% of total male king crabs captured.

The Kodiak red king crab population was estimated to be 80,000 animals. Population estimates were derived for the main commercial fishing districts by size and sex categories. Eighty-four percent of the adult female crab sampled appeared to have full egg clutches.

The Brown (Golden) King Crab Fishery

The brown (golden) king crab fishery in the Kodiak area is a permit fishery. This permit system, adopted in 1983 by the Alaska Board of Fisheries, provides the department the flexibility to avoid conflicts with fair starts in other fisheries, as well as the ability to adjust the permit provision so that it is in the best interest of the industry and the resource.

At the March 1985 BOF meeting, the Board reduced the legal size of brown king crab from 7 inches to 6½ inches in width of shell. This regulation became effective on June 28, 1985, the beginning of the new registration year.

The department does not do any assessment work on brown king crab, and accurate stock size is unknown. However, the scope of the last seven years' commercial effort indicates the resource is not large. During 1992 less than three vessels made landing of brown king crab and the harvest is considered confidential (Table 5).

Table 1. Historic commercial red king crab catch and effort for the Kodiak Registration Area 'K', 1960/61-1992/93.

Fishing Year[a]	Vessels	Landings	No. of Crab	No. of Pounds	Pots Lifted	CPUE	Average Wt. Per Crab	Average Price Per #
1960/61	143	-	2,116,375	21,064,871	-	-	-	$ .085
1961/62	148	-	3,181,554	28,962,900	-	-	-	.95
1962/63	195	-	4,146,143	37,626,703	-	-	-	.10
1963/64	181	-	4,158,988	37,716,223	-	-	-	.10
1964/65	189	-	4,923,309	41,596,518	95,951	51	-	.10
1965/66	175	-	11,061,709	94,431,026	173,083	64	-	.128
1966/67[b]	213	-	8,476,299	73,817,779	223,174	38	-	.11
1967/68	227	3,847	5,147,321	43,448,492	207,392	25	-	.26
1968/69	178	1,839	2,348,950	18,211,485	119,146	20	-	.26
1969/70[c]	136	978	1,606,181	12,200,571	96,841	17	-	.28
1970/71	100	830	1,561,318	11,719,970	119,192	13	-	.30
1971/72	89	507	1,539,157	10,884,152	66,166	23	-	.39
1972/73	88	683	2,029,670	15,479,916	70,806	29	-	.55
1973/74	129	837	1,847,679	14,397,287	77,826	24	-	.45
1974/75	158	1,195	2,910,201	23,582,720	110,297	26	-	.45
1975/76	169	1,569	2,976,909	24,061,651	113,795	26	8.1	.66
1976/77	195	1,165	2,177,956	17,966,846	130,777	17	8.2	1.37
1977/78	179	1,186	1,590,477	13,503,666	145,867	11	8.5	1.34
1978/79	194	1,077	1,464,021	12,021,850	177,261	8	8.2	1.60
1979/80	247	1,346	1,979,394	14,608,900	207,991	9	7.3	.95
1980/81	164	1,175	2,787,199	20,448,654	201,531	14	7.3	1.05
1981/82	246	2,214	3,035,674	24,237,601	388,751	8	8.0	2.00
1982/83	309	1,373	1,011,109	8,729,761	283,795	4	8.6	3.75
1983/84			NO FISHERY - SEASON CLOSED					
1984/85			NO FISHERY - SEASON CLOSED					
1985/86			NO FISHERY - SEASON CLOSED					
1986/87			NO FISHERY - SEASON CLOSED					
1987/88			NO FISHERY - SEASON CLOSED					
1988/89			NO FISHERY - SEASON CLOSED					
1989/90			NO FISHERY - SEASON CLOSED					
1990/91			NO FISHERY - SEASON CLOSED					
1991/92			NO FISHERY - SEASON CLOSED					
1992/93			NO FISHERY - SEASON CLOSED					
AVERAGE[d]	174	1,359	2,963,898	24,834,120	143,813	21	-	-

[a] Fishing year defined as May 1 - April 30.
[b] July 1 - April 30 season established.
[c] August 15-January 15 established.
[d] Average includes only years with open fishing season.

Table 2. Kodiak red king crab harvest composition and seasons, 1960/61-1992/93.

Season	Open	Closed	Catch Million Pounds	Percent Recruits[a]	Percent Post-Recruits	Size Limit
1960/61	Jul 1	Jun 30	18.9	8	92	6½"
1961/62	Jul 1	Jun 30	29.0	36	64	6½"
1962/63	Jul 1	Jun 30	37.6	26	74	6½"
1963/64	Jul 1	Jun 30	35.0	33	67	7"
1964/65	Jul 1	Jun 30	41.6	48	52	7"
1965/66	Jul 1	Apr 30	94.4	35	65	7"
1966/67	Jul 1	Apr 30	73.8	28	72	7"
1967/68	Jul 1	Apr 30	43.4	27	73	7"
1968/69	Jun 15	Mar 31	18.2	61	39	7"
1969/70	Aug 15	Jan 15	12.2	59	41	7"
1970/71	Aug 15	Jan 15	11.7	38	62	7"
1971/72	Aug 15	Oct 29	10.9	75	25	7"
1972/73	Aug 15	Oct 13	15.5	47	53	7"
1973/74	Aug 15	Oct 25	14.4	49	51	7"
1974/75	Aug 15	Sep 21	20.9	52	48	7"
	Oct 15	Jan 15	2.2	3	97	8"
1975/76	Aug 15	Oct 20	21.6	48	52	7"
	Oct 20	Dec 1	2.5	3	97	8"[b]
1976/77	Sep 1	Oct 16	14.6	33	67	7"
	Dec 1	Jan 15	3.1	.5	99.5	8"
1977/78	Sep 15	Nov 30	11.7	37	63	7"
	Dec 1	Jan 15	1.8	.7	99.3	8"
1978/79	Sep 10	Nov 30	10.3	44	56	7"
	Dec 1	Jan 15	1.7	15	85	7½"
1979/80	Sep 10	Nov 30	13.4	70	30	7"
	Dec 1	Jan 15	1.2	30	70	7½"
1980/81	Sep 15	Nov 30	18.4	69	31	7"
	Dec 1	Jan 15	2.1	22	78	7½"[c]
1981/82	Sep 15	Dec 15	20.3	61	39	7"
	Dec 15	Jan 15	3.9	7	93	7½"
1982/83	Sep 1	Dec 10	7.5	46	54	7"
	Dec 10	Dec 19	1.2	19	81	7½"
1983/84	FISHERY CLOSED					
1984/85[d]	FISHERY CLOSED					
1985/86	FISHERY CLOSED					
1986/87[e]	FISHERY CLOSED					
1987/88	FISHERY CLOSED					
1988/89	FISHERY CLOSED					
1989/90	FISHERY CLOSED					
1990/91	FISHERY CLOSED					
1991/92	FISHERY CLOSED					
1992/93	FISHERY CLOSED					

[a] Recruitment after 1963 based on 7" size limit.
[b] Marmot Bay, Chiniak Bay and Kupreanof Strait did not open for 8" crab.
[c] Uganik Bay, Kupreanof Strait, Marmot Bay, Chiniak Bay, Ugak Bay, South Sitkalidak Strait, Kiliuda Bay and Alitak Bay did not open for 7½" crab.
[d] Harvest of crab by test fishery - 33,743 pounds.
[e] Harvest of crab by test fishery - 13,393 pounds.

Table 3. Legal male red king crab abundance estimates for the Kodiak area, 1973-1992.

Year	Estimate in No. of Animals X 10^6
1973	4.874
1974	8.716
1975	7.622
1976	5.191
1977	3.764
1978	2.874
1979	5.629
1980	5.978
1981	5.873
1982	1.883
1983	0.400
1984	0.397
1985	0.418
1986	0.330
1987[a]	0.177
1988[a]	0.110
1989[a]	0.240
1990[a]	0.119
1991[a]	0.064
1992[a]	0.060

[a] Trawl Survey

Table 4. Adult female red king crab *Paralithodes camtschaticus* estimates by district for the Kodiak area (millions of animals), 1992.

	Threshold	1992 Trawl Estimate
District 1 (Northeast)	1.93	.009
District 2 (Southeast)	0.72	.0000
District 3 (Southwest)	2.28	.003
District 4 (Shelikof)	0.19	.001
TOTAL	5.12	.013

Table 5. Historic commercial brown king crab *Lithodes aequispinus* catch and effort for the Kodiak Registration Area 'K', 1983-1992.

Fishing Year	Landings	Vessels	No. of Crabs	No. of Pounds	Pots Lifted	Average Crab Per Pot	Average Wt. Per Crab	Average Price Per Pound	Exvessel Value (Millions)
1983	36	12	16,349	111,398	8,490	2	6.8	3.00	.3
1984	8	6	3,513	22,066	1,950	2	6.3	2.50	.1
1985	19	4	10,005	63,641	2,693	4	6.4	1.95	.1
1986	31	4	21,862	146,478	5,463	4	6.7	3.00	.4
1987	38	5	9,484	67,191	3,187	3	7.1	3.44	.2
1988			- - - - - - - - - - - Confidential - - - - - - - - - - -						
1989			- - - - - - - - - - - Confidential - - - - - - - - - - -						
1990	6	3	1,214	7,314	1,090	1	6.02	3.00	.02
1991	0	0	0	0	0				
1992			- - - - - - - - - - - Confidential - - - - - - - - - - -						
AVERAGE	20	5	8,814	59,090	3,181	3	-	-	-

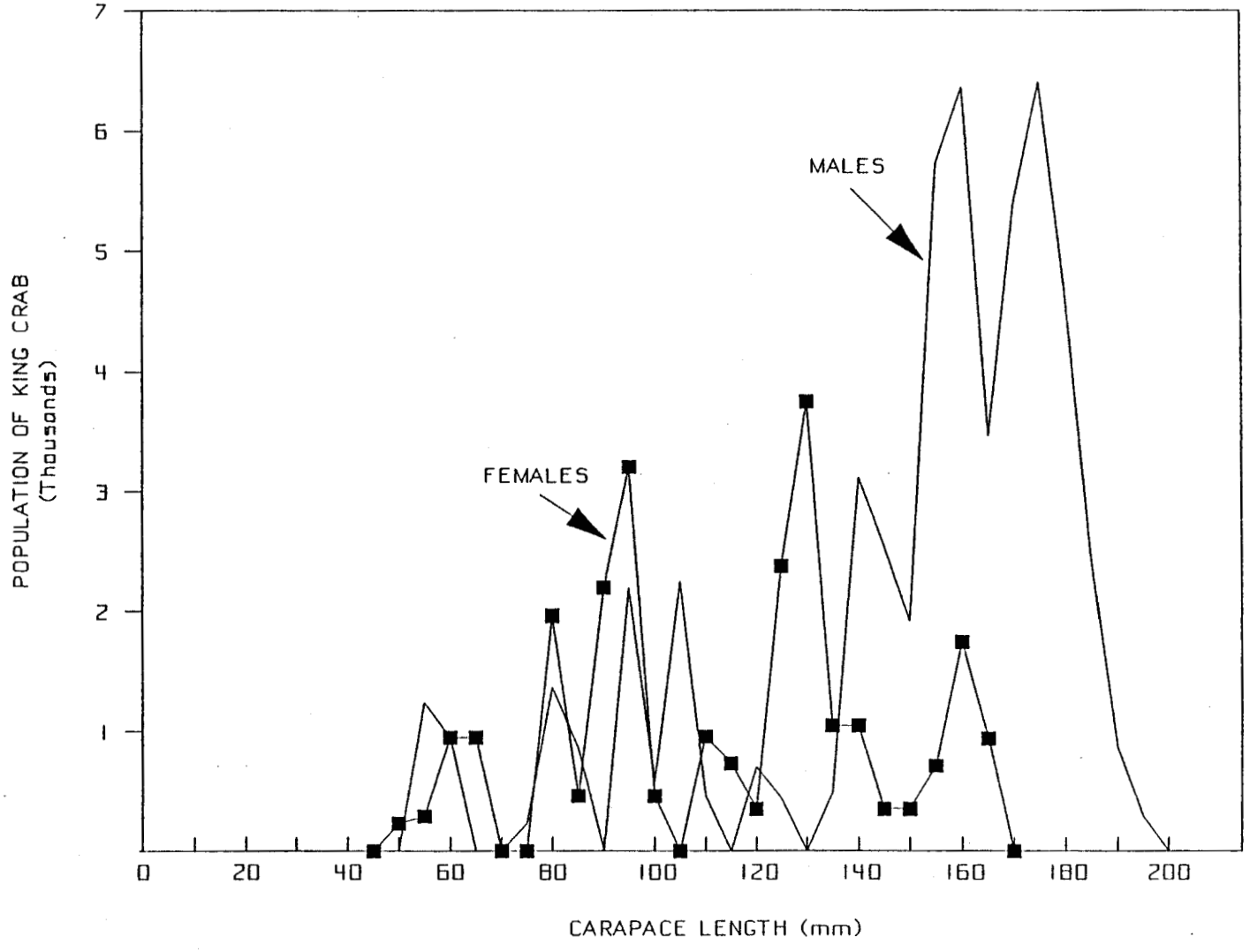

Figure 1 . Carapace length frequency of male and female red king crab captured during the Kodiak trawl survey, 1992.

THE SCALLOP FISHERY IN ALASKA AND THE WESTWARD REGION

The giant Pacific Weathervane scallop *Patinopecten caurinus* exists in varying abundance to depths of 100 fm (183 m) in the Gulf of Alaska. Investigations by the National Marine Fisheries Service (NMFS), the International Pacific Halibut Commission (IPHC), and the ADF&G between 1954 and 1968 showed significant abundances of scallops distributed over wide areas between Cape Spencer and Kodiak Island with sporadic occurrences along the Alaska Peninsula. Commercial size beds appear to occur on sandy-gravel and muddy bottoms in 30-70 fm (54-128 m).

The commercial fishery began in 1967 when several vessels explored the east and northeast parts of Kodiak Island and harvested a few thousand pounds of unshucked scallops. In 1968 the first full year of fishing, 19 vessels (comprised of New England type scallopers, converted Alaskan crab vessels, salmon seiners, halibut longliners and shrimp trawlers) entered the Alaskan scallop fishery. The 1968 catch came from two areas with 927,795 pounds harvested from Yakutat and 872,803 pounds in the Kodiak Area of the Westward Region.

The peak harvest of scallops in Alaska totaling 1,849,947 pounds, came in 1969 when 837,087 pounds were taken in Yakutat and 1,012,860 pounds in Kodiak (Table 1). Kodiak's peak harvest occurred the following year in 1970 when 1,417,612 pounds of shucked meats were landed, while the Yakutat catch dropped to only 22,726 pounds.

The statewide harvest declined in the early 70's to an average of 800,000 pounds per year while the highly mobile fleet searched throughout the Gulf of Alaska for unexploited beds. By the mid-1970's, fishing effort was reduced due to static price conditions, difficulty in gathering experienced crews and the pursuit of more lucrative fisheries by potential scallop vessels. By 1978 production had further declined to the point where there was no commercial effort in that year. In 1979 a small fishery resumed with the majority of the catch from around Kodiak Island.

The scallop fishery gained momentum in the early 1980's with the statewide harvest reaching a high of 887,335 pounds in 1981 by a near record 18 vessels. The Westward Region accounted for about half of that production. During the 1980's, regional harvests have contributed the majority of the statewide catch with significant portions coming from previously unexploited scallop beds to the west of Kodiak. By 1985 fishing effort had shifted as far west as Unalaska Island, but recent production has again centered around Kodiak Island. In 1989, the regional catch totaled 464,421 pounds taken by six vessels.

Crab mortality by dredges and trawls has long been a concern of the Department of Fish and Game. In the late 1960's the department initiated an observer program on scallop vessels to assess the problem. The conclusion of this program was that scallop dredges do catch crab. The mortality rates increased significantly on soft, recently molted crab while areas of schooling crab produced higher catch rates. These factors led to the complete closure in 1969 of certain areas which were a major importance to crab breeding in the Kodiak and Alaska Peninsula areas. In other areas of known crab habitat the season for scallop fishing was set to avoid the crab soft shell period.

The season for Kodiak waters was set at June 1 to March 31 in the north end and Shelikof Strait. Alaska Board of Fisheries action in 1973 set the season at July 15 to March 31 off Kodiak's eastside. The Alaska Board of Fisheries regulated further closures in the Alaska Peninsula Area in 1984 and around Unalaska Island in 1986 to protect dwindling crab stocks. Waters closed to scallop fishing were again reviewed by the Alaska Board of Fisheries during the spring 1990 meeting. King and Tanner crab areas that had been closed to nonpelagic trawling were now closed to scallop dredging as well. This protected additional crab habitat extending from Kodiak's westside bays to Unalaska Island. Areas currently closed to scallop fishing are shown in Figures 1 - 3.

Interest in harvesting scallops of the genus *Chlamys* arose during 1990. Although considerably smaller than the weathervane scallops currently harvested, the development of mechanical shucking machines has increased the feasibility of such operations. This fishery was explored during 1991 and 1992.

The Westward Region commercial catch in 1992 of weathervane scallops was 508,534 pounds harvested by four vessels. Fishing activity was concentrated in the Kodiak area, but also occurred in the Aleutian Islands. Some scallops of the genus *Chlamys* were also taken but the catch remains confidential as less than three operators participated.

The department currently does no stock assessment work on scallops. Catches of shells on the crab trawl survey from commercially shucked scallops appears to indicate that scallopers are retaining smaller scallops in their catch than in past years.

Table 1. Historic catch, effort and value of weathervane scallops, Alaska Westward Region, 1967-1992.

Year	Vessels	Landings	Commercial Catch (#s)	Average Price Per Pound
1967		C o n f i d e n t i a l		
1968	8	89	872,803[a]	.85
1969	11	86	1,012,860	.85
1970	7	102	1,417,612	1.00
1971	5	48	841,211	1.05
1972	5	68	1,038,793	1.15
1973	4	42	935,705	1.20
1974	3	14	147,945	1.30
1975	4	30	296,650	1.40
1976		C o n f i d e n t i a l		
1977	-	-	0	-
1978	-	-	0	-
1979		C o n f i d e n t i a l		
1980	7	33	371,018[b]	3.60
1981	15	61	441,401	4.00
1982	8	82	641,336	3.25
1983	4	29	191,510	5.00
1984	7	37	309,502	4.00
1985	3	26	608,955	4.00
1986	6	58	587,242	4.25
1987	4	43	583,686	3.70
1988	4	37	302,738	4.00
1989	6	48	464,421	4.06
1990	8	86	898,277	3.53
1991	7	75	683,261	3.91
1992	4	51	508,534	4.00

[a] 718,671 pounds shucked - 154,132 pounds unshucked.
[b] 353,433 pounds shucked - 17,575 pounds unshucked.

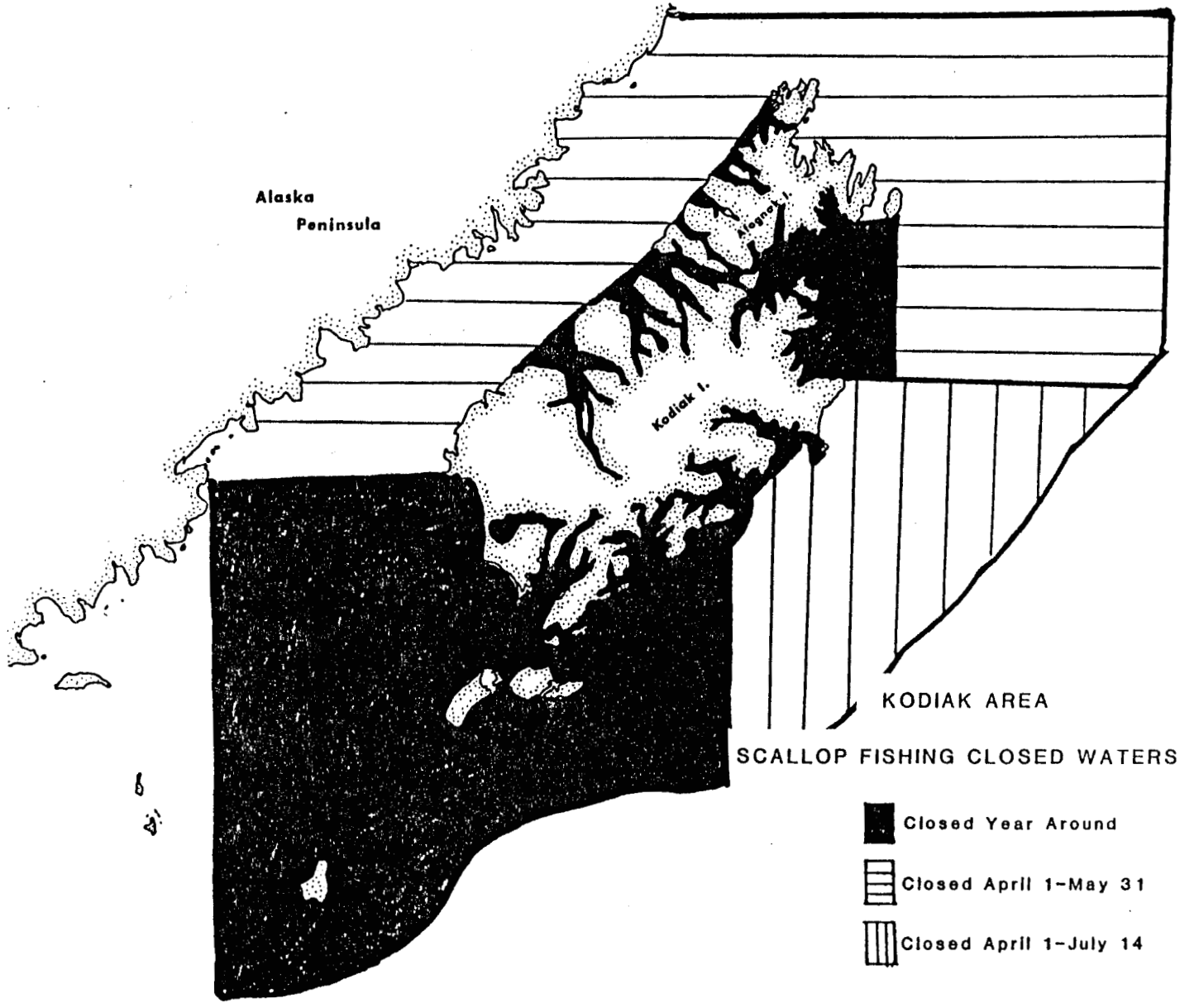

Figure 1. Kodiak Area scallop fishing closed waters.

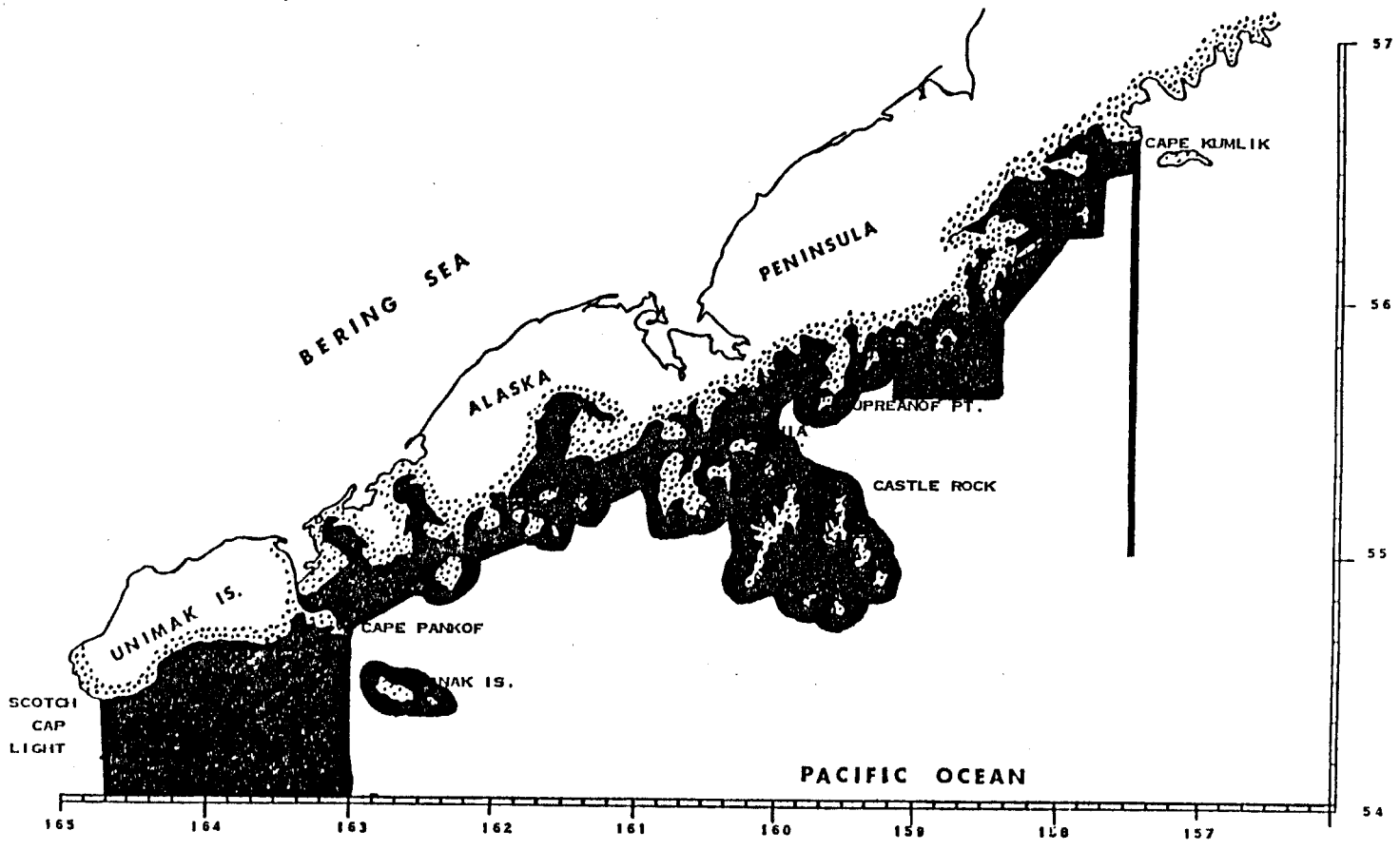

Figure 2. Alaska Peninsula Area scallop fishing closed waters.

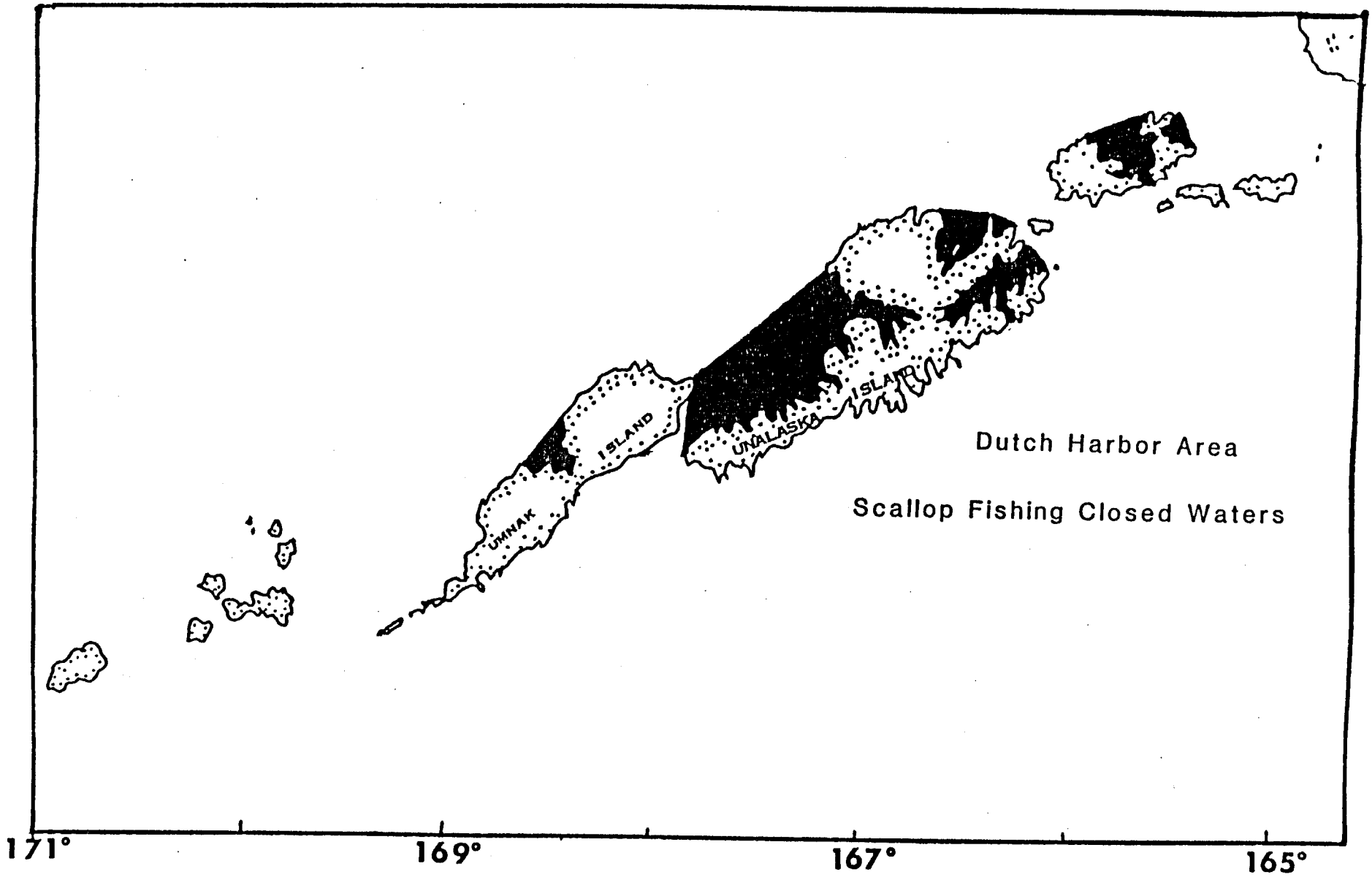

Figure 3. Dutch Harbor Area scallop fishing closed waters.

SHRIMP

Historic Background Trawl Fishery

The Kodiak shrimp fishery began in 1958 with a harvest of 31,886 pounds. The fishery grew rapidly to an annual catch of 10 to 12 million pounds in the early 1960's. The fishery slowed when shore plants and the fishing fleet were badly damaged by the 1964 earthquake and tidal wave, but then grew rapidly to a peak of 82.2 million pounds in 1971 (Table 1). As Kodiak shrimp catches declined in the 1970's, much of the vessel effort shifted into the Chignik and South Peninsula areas until those areas demonstrated similar declines in the late 1970's.

Vessels that have participated in the Kodiak fishery are of three types: vessels that fish with beam trawls, vessels that fish a single otter trawl, and vessels that fish two otter trawls simultaneously. The single otter trawl vessels have participated in the fishery since 1958. Beam trawl vessels started fishing in 1970 (F/V *Taurus*, F/V *Sue*). The double rigged otter trawl vessels first fished Kodiak in 1969 (F/V *Pacific Challenger*), followed by more efficient stern ramp double otter trawls in 1970 (F/V *Dawn*). These double rigged vessels increased efficiency. Double rigged vessels have hold capacities to 200,000 pounds, while single rigged otter trawls are typically less than 120,000 pounds, and beam trawlers typically pack less than 20,000 pounds. The efficiency and ability to deliver larger loads enabled the double rigged otter trawlers to range over a much larger area than was customary. Along with the other innovations to the fishery, the double rigged vessel also introduced Gulf of Mexico style nets, which were more efficient than the West Coast manufactured nets used previously. These new style nets were quickly adopted by the single rigged vessels. Gear continued to change as new materials and ideas were tried: wider nets, higher opening nets, different mesh size, longer nets and roller gear. Along with the increase in gear technology in the 1970's, electronics became more sophisticated and reliable as a tool to locate shrimp.

No regulatory measures were promulgated in the Kodiak shrimp fishery until 1970 when the Alaska Board of Fish and Game (later known as Alaska Board of Fisheries) adopted an egg hatch closure during March and April for some bays and nearshore areas. In 1971 a quarterly quota system was adopted to provide harvest throughout the year while not allowing unrestricted harvest. The allowable harvest for various fishing sections was divided into four periods. In 1972 the Board adopted a total egg hatch closure for the Kodiak Area during March and April. In the late 1970's, the quarterly quota system was reduced to a single opening for certain areas and staggered opening dates for many of the fishing sections, while others retained two fishing periods - fall and winter (September 1 - December 31 and January 1 - February 28). Beginning in 1979, the opening date was changed from May 1 to June 1. Most of the season date adjusting was due to industry's desire to spread harvest out over a longer time period while trying to prevent conflicts with vessels and processing in other fisheries. Also, during the late 1970's, stocks in some areas were not large enough to support fisheries, and these areas were opened and closed by emergency order.

The Department of Fish and Game conducted a voluntary logbook program beginning in 1967. This database, plus trawl surveys conducted by the department since the early 1970's, provided

means for establishing harvest levels by the late 1970's. This database and harvest adjusting system was quite flexible during its developing stage. By 1981 industry demanded this flexible management scheme be defined. This led to the *Westward Region Shrimp Management Plan* which was presented to the Board of Fisheries in April 1982. This plan was reviewed by the Board, and amendments in certain areas were made at the Board's request. The objectives of this management plan are to maintain shrimp stocks at a level termed "representative biomass index" (RBI) determined by survey trawls, while allowing a fishery during rebuilding periods. Exploitation rates increase as the population level approaches or exceeds RBI and decline if the survey index is less than the RBI level. Additionally, a minimum level at which any harvest would occur was established. This "minimum acceptable biomass index" (MABI) is 40 percent of the representative index level.

At the same meeting the Board endorsed the *Westward Region Shrimp Management Plan*; they provided for an "economic alternative". They also adopted an alternative management strategy known as the *Mainland Shrimp Management Plan.*

Under the *Westward Region Shrimp Management Plan* few areas have been open the past seven years. The Mainland fishery, while open, has steadily declined in both production and area fished. Overall, Westward Region shrimp stocks have continued to decline, regardless of the two management strategies.

1992/93 Trawl Fishery

The trawl fishery opened in the Kodiak District on June 15, 1992. There has not been any commercial harvest of shrimp by a trawl during the 1992/93 season. The areas open to shrimp trawl fishing were the areas under the *Mainland Shrimp Management Plan*, undefined offshore areas and North Afognak (Figure 1).

Stock Status

During 1992 the department conducted a trawl survey for shrimp in the Westward Region. Population estimates for each section in Kodiak are listed on Table 2. All sections remained below the level required by the *Westward Region Shrimp Management Plan* to warrant an opening. Stocks in the Kodiak District remain at very low levels. There appears to be little if any improvement in stock conditions overall. Areas under the *Mainland Shrimp Management Plan*, while remaining open, continue to have little or no production.

Pot Shrimp Fishery

Currently, no assessment of stock size or condition is conducted by the department other than information from the fleet. No pot shrimp harvest occurred during 1992 (Table 3).

Table 1. Historic commercial trawl shrimp catch and effort for the Kodiak District of Westward Statistical Area 'J', 1958-1992.

Calendar Year	Fishing Year	Vessels	Landings	Commercial Pounds	Harvest Price
1958		-	-	31,886	$.035
1959		-	-	2,861,900	.035
1960		11	94	3,197,985	.039
1961		12	203	11,083,500	.04
1962		11	204	12,654,027	.04
1963		-	-	10,118,472	.043
1964		6	-	4,339,114	.04
1965		11	320	13,823,061	.04
1966		17	551	24,097,141	.045
1967		23	-	38,267,856	.045
1968		16	-	34,468,713	.04
1969		26	935	41,353,461	.055
1970		18	1,024	62,181,204	.04
1971		49	1,746	82,153,724	.04
1972		63	1,398	58,352,319	.04
1973		50	1,283	70,511,477	.055
	1973/74	63	1,029	56,203,992	.08
	1974/75	75	1,100	58,235,982	.08
	1975/76	58	884	49,086,591	.08
	1976/77	62	762	46,712,083	.10
	1977/78	58	653	26,409,366	.13
	1978/79	50	328	20,506,021	.165
	1979/80	37	242	12,863,536	.225
	1980/81	67	462	27,101,218	.29
	1981/82	55	298	19,112,367	.27
	1982/83	40	224	10,391,207	.27
	1983/84	14	63	2,779,030	.35
	1984/85	13	59	2,942,922	.33
	1985/86	5	26	1,145,980	.20
	1986/87		Confidential		
	1987/88		Confidential		
	1988/89	0	0	0	.00
	1989/90	0	0	0	.00
	1990/91	0	0	0	.00
	1991/92	0	0	0	.00
	1992/93	0	0	0	.00
Fishing Year Averages		33	556	25,917,820	$.12

Table 2. Shrimp population indices from surveyed Westward Region fishing sections, 1992.

FISHING SECTION	AVERAGE LBS/NM	1992 SURVEY INDEX (MILLION OF POUNDS)
Marmot Bay	180	1.11
Chiniak Bay	182	.38
Kiliuda Bay	35	.32
Twoheaded Gully	159	1.16
Alitak Bay	24	.21
Uyak Bay	30	.16
Uganik Bay	123	.48
Wide Bay	660	.92
Chignik Bay	246	2.01
Kuiukta Bay	227	.69

Table 3. Pot shrimp catch statistics, Kodiak District of Statistical Area 'J', 1969-1992.

Year	Vessels	Landings	Pounds
1969		Confidential	
1970	-	20	12,302
1971	a	a	a
1972		Confidential	
1973		Confidential	
1974	6	73	10,336
1975	7	77	12,782
1976		Confidential	
1977	3	26	2,565
1978		Confidential	
1979		Confidential	
1980	4	25	4,700
1981	4	6	2,511
1982	6	18	9,754
1983	12	31	18,686
1984	6	21	4,361
1985		Confidential	
1986		Confidential	
1987	a	a	a
1988		Confidential	
1989		Confidential	
1990		Confidential	
1991	a	a	a
1992	a	a	a

[a] No commerical landings recorded for 1971, 1987, 1991 or 1992.

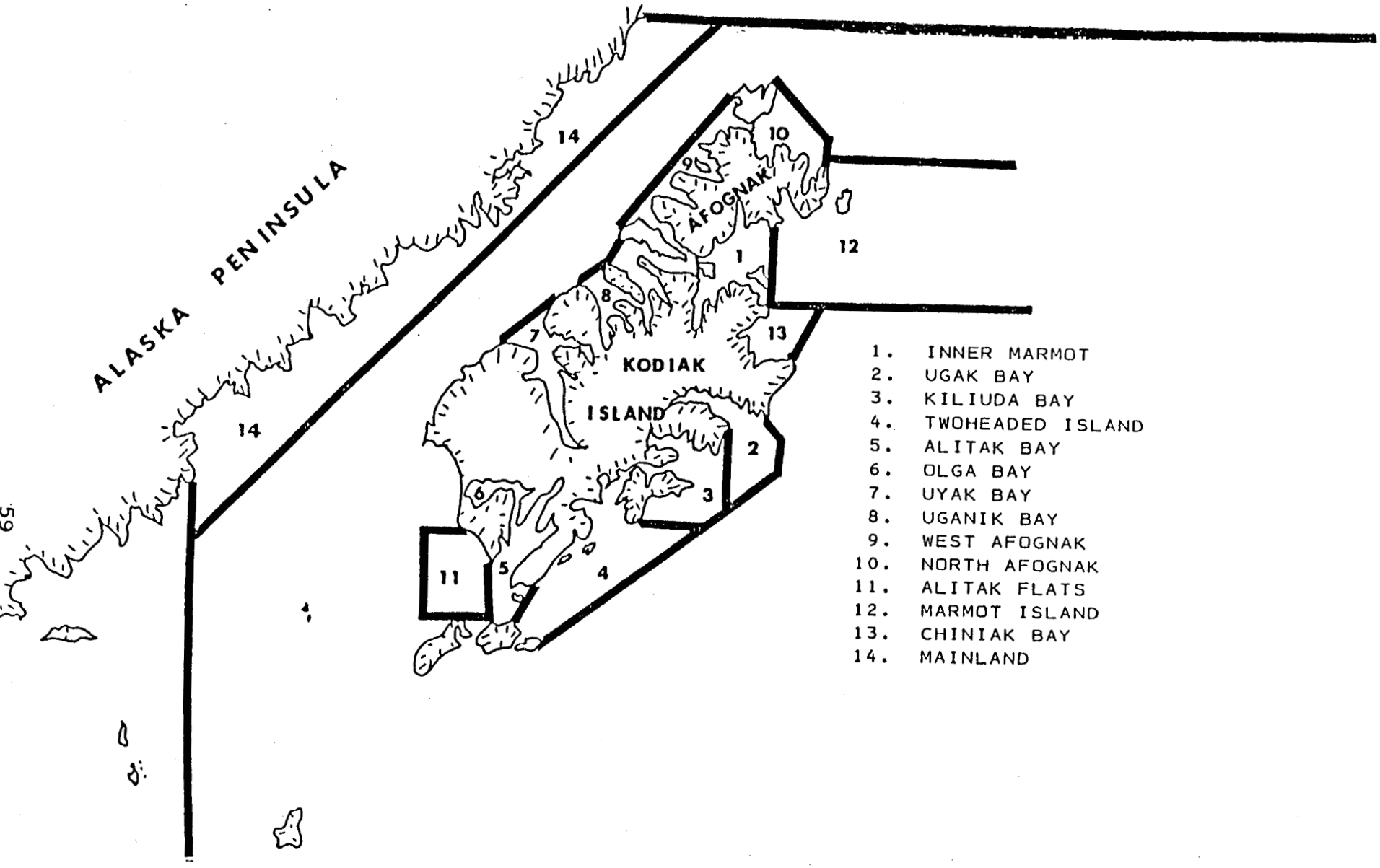

Figure 1. Kodiak District trawl shrimp fishing sections.

SEA URCHINS

Historic Background

The green urchin *Strongylocentrotus droebachiensis* was not harvested commercially in the Kodiak Area until 1980 when a small amount was taken to test marketability. There was little further interest in urchins until 1985 when a small harvest occurred. In 1986 the harvest increased with more divers participating (Table 1).

Sea urchins are harvested for their roe content and seem to be prime for harvest in the Kodiak area between September and December. However, it appears some urchin beds have commercial quality roe as late as mid-February. All urchins are harvested by the use of scuba and hookah diving gear.

In interviewing buyers of the raw product, there appears to be a variation in the quality of the product. Taste, texture, and color of green urchin roe appears to vary with water depth, diet and freshwater influence. Urchin size has an effect on quality and marketability of sea urchin roe. Kodiak buyers were encouraging divers not to retain urchins less than 2" in diameter. All of the urchins harvested in the Kodiak area were placed in shipping boxes live and air freighted to Japan via Anchorage. The roe was then extracted and prepared for market.

1992 Fishery

Interest in harvesting sea urchins waned during 1992. The harvest was the lowest since the mid-80's. Catches remain confidential as less than three buyers participated.

Stock Status

No assessment work is currently being done on sea urchins in the Kodiak area. Unutilized beds of urchins exist around Kodiak Island, and if a processing facility for urchins was available in Kodiak, the department would expect a dramatic increase in urchin harvest.

Table 1. Historic harvest of sea urchins in the Kodiak area, 1980-1992.

Year	No. of Permits	No. of Landings	Pounds Harvested (Live Weight)	Average Price Per/Lb.
1980		Confidential		
1985		Confidential		
1986		Confidential		
1987	12	78	104,139	.69
1988	28	260	190,509	.80
1989	29	81	44,862	.82
1990	25	83	84,004	.84
1991	6	24	29,947	.92
1992		Confidential		

OCTOPUS

The giant Pacific octopus *Octopus dofleini* exists throughout Alaskan waters and is quite numerous in the Kodiak District. Most recorded catches have been incidental to other commercial fishing activities such as crabbing and bottomfishing. The harvest increased through the years to a peak of over 19,000 pounds in 1980 (Table 1). Reduced catches after 1980 were the result of shortened Tanner crab seasons.

Interest in the fishery has been increasing due to the demand by longline fishermen for bait octopus. The octopus fishery experienced a dramatic increase in 1990. Caught incidentally to cod fish in the rapidly expanding pot cod fishery, the harvest increased to record levels. The 1992 catch was 345,029 pounds.

Stock Status

Although the octopus is thought to be numerous, no estimate of abundance is available. The Department currently has no directed study concerning octopus.

Table 1. Commercial catch, effort, and value for octopus in the Kodiak Management Area, 1977-1992.

Year	Number of Vessels	Number of Landings	Commercial Catch (Pounds)	Avg. Price Per Pound	Est. Value Exvessel (dollar)
1977	5	9	1,000	.71	1,136
1978	11	21	3,336	.75	2,502
1979	20	43	6,978	.74	5,164
1980	27	61	19,342	.75	14,506
1981	21	46	5,872	.70	4,110
1982	12	29	3,854	.70	2,697
1983	12	20	3,764	.70	2,634
1984	17	43	6,487	.70	4,341
1985	10	12	4,812	.78	3,753
1986	5	8	643	.70	450
1987	8	15	14,151	1.08	15,300
1988	4	4	1,949	1.08	2,105
1989			Confidential		
1990	31	131	69,607	1.08	80,000
1991	70	342	129,355	1.07	138,410
1992	232	901	345,029	1.07	369,000

RAZOR CLAMS

Historic Background

Razor clams *Siliqua sp.* have been harvested in the Kodiak Management Area since the early 1920's (Table 1). Though many Kodiak Island beaches were explored with some success, the principal commercial harvest occurred about 70 miles northwest of Kodiak in the Kukak Bay, Hallo Bay, Big River, and Swikshak Beach regions. Digging continued somewhat on a regular basis until the early 1960's when a combination of increasing federal and state regulations in processing the product, poor market conditions, and the earthquake of 1964 brought a decline. Commercial harvesting of clams for human consumption has never become re-established and the fishery has been strictly hand-digging for use as bait in the Dungeness crab fishery. The certification program ended in July of 1980. In 1990 there were no clam beaches in the Kodiak Area certified by the Alaska Department of Environmental Conservation as safe for human consumption.

Many of the principal harvest areas along the Alaska Peninsula are adjacent to the Katmai National Monument which includes all the land above mean high water from Cape Douglas to Cape Kubugakli. Commercial activity within the Monument is restricted. Current policy of U.S. Park Service dictates a ban on camping in the monument in support of a business enterprise.

In 1986 the Alaska Board of Fisheries adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak Area east of Kilokak Rocks.

Stock Status

The potential for a razor clam harvest in the Kodiak Management Area has been established by historic catch records and studies conducted by the Department. These studies, however, were conducted in the mid 70's and are of little benefit in judging stock status at this time due to environmental changes that have occurred. Based on success by diggers the past few years, it appears the clam populations have drastically declined in the Swikshak - Big River Area, which historically produced a large portion of the razor clam harvest.

1992 Fishery

There were not any landings of clams from the Kodiak Area during 1992.

Table 1. Historic commercial razor clam catch effort and value for Kodiak Management Area, 1960-1992.

Year	No. of Registered Diggers[a]	No. of Lndgs.	Commercial Catch (Pounds)	Avg. Catch Per Lndg. (Pounds)	Average Price Per #	Est. Price Exvessel (Dollars)
1960	76		420,636		$ .105	44,000
1961	95		381,971		.105	40,000
1962	66		297,516		.105	31,000
1963	39		323,757		.11	35,600
1964	2		0		.00	-
1965	4		20,000		.25	5,000
1966	29		15,429		.38	6,000
1967	9		2,155		.40	900
1968	19		6,384		.40	2,600
1969	5	6	12,029	2,005	.40	4,812
1970	6	32	132,261	4,133	.40	53,000
1971	73	82	190,394	2,322	.30	57,000
1972	95	128	152,116	1,188	.35	53,000
1973	64	140	165,282	1,181	.40	66,000
1974	58	74	198,381	2,681	.50	99,000
1975	18	5	6,188	1,238	.50	3,000
1976	9	0	0	0	.00	-
1977			Confidential			
1978			Confidential			
1979	-	0	0	0	.00	-
1980	-	8	8,006	1,001	.79	6,325
1981	-	5	8,186[b]	1,637	1.00	8,186
1982	-	11	11,608[c]	1,055	1.00	11,608
1983	-	7	7,920	1,131	1.00	7,920
1984	-	21	33,972	1,613	1.00	33,972
1985	-	11	16,945[d]	1,540	1.00	16,945
1986	-	4	3,993	998	1.00	3,993
1987	-	-	-	-	-	-
1988	-	-	-	-	-	-
1989	-	-	-	-	-	-
1990	-	-	-	-	-	-
1991	-	-	-	-	-	-
1992	-	-	-	-	-	-

[a] Represents registered diggers not actual diggers - no data available after 1977 due to statewide issuance of Interim Use Permits.
[b] Additional 985 pounds of hardshell clams harvested.
[c] Additional 1,506 pounds of hardshell clams harvested.
[d] Additional 1,496 pounds of hardshell clams harvested.

ANNUAL MANAGEMENT REPORT FOR THE

SHELLFISH FISHERIES OF THE ALASKA PENINSULA AREA, 1992

By

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ALASKA PENINSULA

Introduction

The Alaska Peninsula Management Area includes the waters of the Pacific Ocean west of the longitude of Cape Kumlik and east of the longitude of Scotch Cap Light (Figure 1).

Commercial shellfish fisheries have traditionally occurred in the Alaska Peninsula on king crab, Tanner crab, Dungeness crab, shrimp, scallops and octopus. Shellfish stocks are considered depressed and no commercial fishery has occurred since 1982 for king crab and shrimp and since 1989 for Tanner crab. Limited effort has occurred on Dungeness crab, scallops and octopus.

KING CRAB

Introduction

The red king crab fishery in the Alaska Peninsula Registration Area M began in 1947, when 141,000 pounds were landed (Figure 1). The historic high catch of 22.6 million pounds occurred in 1966 (Table 1).

Of the three Area M king crab districts, (Figure 1), the major portion of the harvest in the last ten years of fishing has come from the Central District with Pavlof Bay being the major producer. The annual catch in the Unimak Bight District during the same period averaged less than half the Central District annual harvest. Catches in the Chignik District during this period varied depending on effort but did not exceed 386,000 pounds.

During the 1980/81 season the area M harvest reached just over five million pounds, the highest catch since the 1968/69 season (Table 1). The catch was the result of strong recruitment from 1978 through 1980. Recruitment has declined severely since that time. The fishery was closed for the first time during the 83/84 season and has remained closed since.

1992/93 Season Summary

As has been the case since 1983/84, the 1992/93 commercial fishery in area M was not opened. The closure was announced by Emergency Order 4-S-10-92 on September 14, 1992 (Table 2).

Stock Status

This is the fifth year that the Department has used a trawl exclusively to assess the crab populations in the Alaska Peninsula. The 1992 survey was conducted aboard the R/V *Resolution* during August and September. One hundred forty-three successful tows were completed in the Alaska Peninsula District to assess both king and Tanner crab populations.

The total number of king crabs captured during the Alaska Peninsula survey was 25. Sixteen of the crabs captured were males, nine being legal and seven sublegal. Nine females were caught of which seven were mature and two were juveniles. The king crab stocks in the Alaska Peninsula remain depressed and no commercial fishing is anticipated in the near future.

Brown King Crab

Occasionally fishermen express an interest in exploring area M for brown king crab *Lithodes aequispina*. In 1983 five vessels registered but no catch was recorded. Presently, male brown king crab 6-inches or greater in shell width may be taken from January 1 through December 31 under a permit issued by the Commissioner.

1992 Season

No vessels registered to fish for brown king crab in area M during 1992.

Stock Status

Stock status is unknown, and no commercial quantities have been located to date.

Table 1. Catch and effort statistics for king crab in area M, the Alaska Peninsula, 1947-1992.

Year	No. Vssls	No. Lndgs	No. Crab	No. Pounds	Pots Lifted	CPUE	Avg. Wt.	Price Per Lb.
1947	NA	NA	18,800	141,000	NA	NA	7.5	NA
1948	NA	NA	518,500	3,363,000	NA	NA	6.5	NA
1949	NA	NA	205,500	3,476,000	NA	NA	12.0	NA
1950	NA	NA	270,000	2,124,000	NA	NA	7.9	NA
1951	NA	NA	86,500	599,000	NA	NA	6.9	NA
1952	NA	NA	32,400	298,000	NA	NA	7.6	NA
1953	NA	NA	38,400	380,000	NA	NA	10.0	NA
1954	NA	NA	31,666	316,660	NA	NA	10.0	NA
1955	NA	NA	164,069	1,640,688	NA	NA	10.0	NA
1956	NA	NA	421,651	4,221,496	NA	NA	10.0	NA
1957	NA	NA	668,709	6,687,092	NA	NA	10.0	NA
1958	NA	NA	724,595	7,245,947	NA	NA	10.0	NA
1959	NA	NA	568,303	6,166,974	NA	NA	10.0	NA
1960	NA	1,496	677,100	6,700,000	NA	NA	9.9	NA
1961	NA	959	419,354	3,900,000	NA	NA	9.3	NA
1962	NA	657	287,624	2,273,013	NA	NA	7.9	NA
1963	27	1,037	970,739	6,539,129	NA	NA	6.7	.09
1964	40	1,297	1,906,018	14,354,060	NA	NA	7.5	.10
1965	36	1,081	1,813,728	14,713,501	NA	NA	8.1	.10
1966	37	1,255	2,494,949	22,577,587	NA	NA	9.0	.10
1967	39	1,062	1,943,463	17,252,307	NA	NA	8.9	.19
1968/69	34	885	1,273,567	10,944,472	NA	NA	8.6	.34
1969/70	33	415	558,800	4,137,000	51,300	11	7.7	.25
1970/71	25	339	446,042	3,425,760	38,995	11	7.7	.25
1971/72	26	364	597,394	4,123,130	41,759	14	6.9	.28
1972/73	29	301	610,300	4,069,362	34,408	18	6.7	NA
1973/74	36	389	658,632	4,260,674	53,642	12	6.9	.72
1974/75	36	318	644,054	4,572,101	44,951	14	7.1	.43
1975/76	37	248	367,221	2,605,310	35,104	11	7.2	.41
1976/77	26	122	125,778	958,069[a]	17,748	7	7.7	.61
1977/78	15	73	119,641	726,382	10,551	11	6.1	1.00
1978/79	33	226	520,168	3,093,859	31,142	17	5.9	1.27
1979/80	68	288	738,859	4,453,557	41,753	18	6.0	.92
1980/81	51	358	821,071	5,080,632[a]	54,114	15	6.2	.96
1981/82	56	341	515,882	3,168,689	51,776	10	6.1	1.40
1982/83	63	157	271,237	1,683,654	30,894	9	6.2	3.20
1983/84			NO	FISHERY				
1984/85			NO	FISHERY				
1985/86			NO	FISHERY				
1986/87			NO	FISHERY				
1987/88			NO	FISHERY				
1988/89			NO	FISHERY				
1989/90			NO	FISHERY				
1990/91			NO	FISHERY				
1991/92			NO	FISHERY				

NA = Not Available

[a] Combined 6 1/2 inch and 7 1/2 inch seasons.

Table 2. King crab commercial fishing periods in the Alaska Peninsula (area M), 1974-1992.

Year	Open	Closed
1974/75	August 15	January 15
1975	August 15	December 18
1976	August 15	October 1
1976/77	November 15	January 15
1977/78	August 15	January 15
1978/79	September 15	January 15
1979	September 15	December 31
1980/81	September 10	January 15
1981/82	September 10	January 15
1982	September 15	September 25
1983	Closed	
1984	Closed	
1985	Closed	
1986	Closed	
1987	Closed	
1988	Closed	
1989	Closed	
1990	Closed	
1991	Closed	
1992	Closed	

Table 3. Comparative male king crab catch data abundance survey for the Alaska Peninsula (Area 'M').

Year	Stations Fished	Pots Lifted	----Legals---- Number	CPUE[b]	---Sublegals--- Number	CPUE
1975	110	610	815	1.4	4,776	7.8
1976	129	801	874	1.1	8,006	10.0
1977	75	354	3,610	10.2	16,986	48.0
1978	62	355	7,259	20.4	10,960	30.9
1979	69	330	4,411	13.4	7,141	21.6
1980	120	700	8,110	11.6	7,263	10.4
1981	127	750	4,545	6.1	2,538	3.4
1982	113	630	1,197	1.9	805	1.3
1983	77	307	317	1.0	216	0.7
1984	218	498	324	0.6	25	0.0
1985	138	410	36	0.1	18	0.0
1986	129	400	65	0.2	52	0.1
1987	145	434	11	0.1	17	0.0
1988[a]	106		45		27	
1989	167		19		215	
1990	157		4		16	
1991	146		5		53	
1992	143		9		7	

[a] Trawl survey introduced in 1988. Catches and population estimates not directly comparable to pot survey results.

[b] Catch per pot lift.

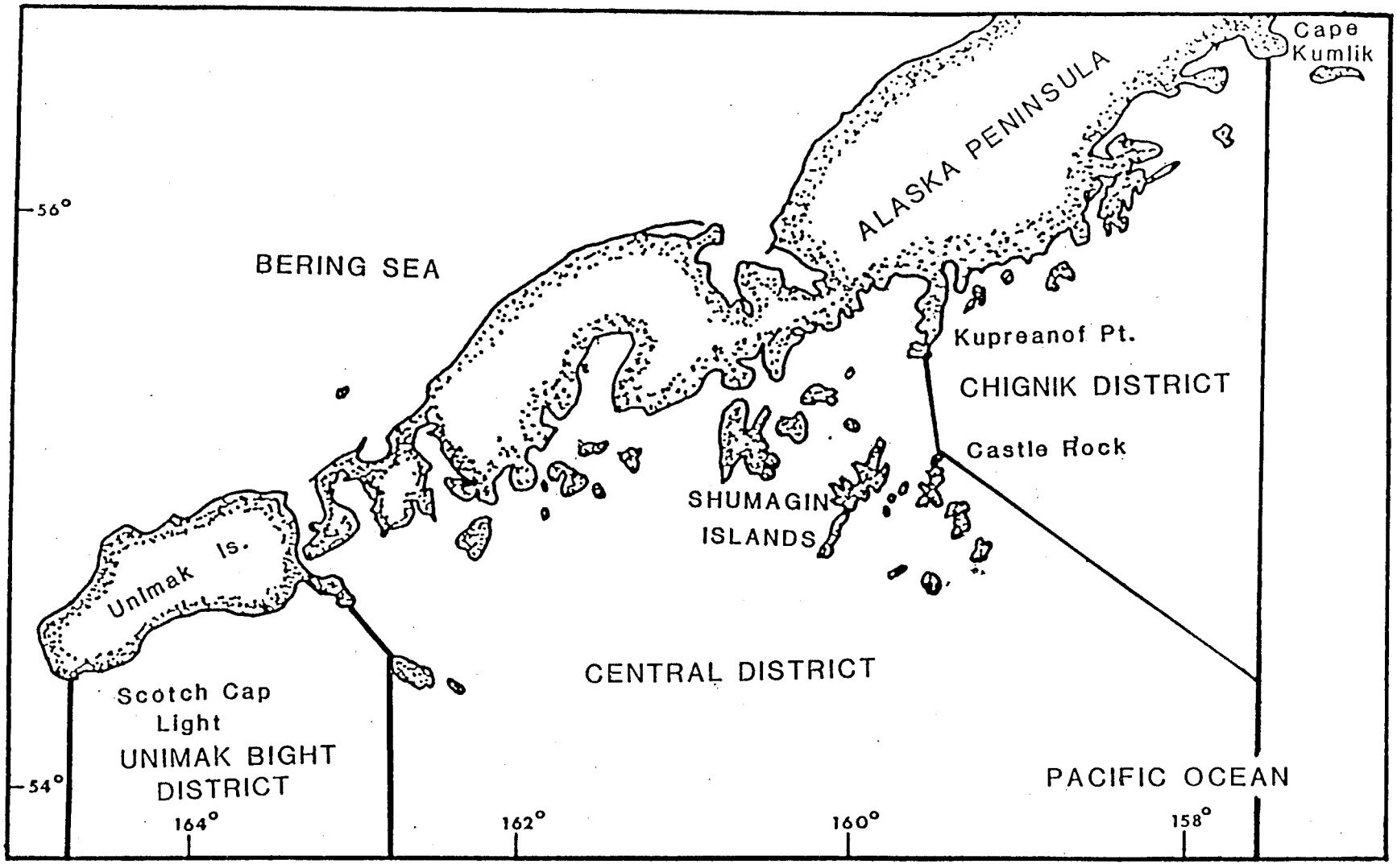

Figure 1. Alaska Peninsula (Area M) king crab districts.

CHIGNIK TANNER CRAB

Introduction

The Chignik District of area J consists of the waters south of the Alaska Peninsula from Cape Kumlik west to Kupreanof Point (Figure 1).

The Chignik Tanner crab fishery began in 1968 when 21,000 pounds of crab were caught (Table 1). During the next four years, the market was uncertain and harvests were erratic. Other than a 14 day closure before each king crab season and limiting gear to pots or ring nets, few regulations governed the early fishery.

In 1973, market conditions improved, and 15 vessels produced nearly 750,000 pounds (Table 1). There were 25 vessels the next year, and the catch grew to 4 million pounds. In 1975/76, 35 vessels landed the peak harvest of 7 million pounds (Table 1). By 1975 and 1976, the rapid growth of the fishery caused the Board of Fisheries to adopt several protective regulations. A system to register and inspect vessels was adopted. The harvest was restricted to male crabs with carapace widths 5.5 inches or more. The seasons were set to open November 1 and to close in May or June, to protect the mating and molting period of the crab. In addition, guideline harvest levels were established. Concern over lost pots led to the adoption of a regulation requiring that: "After July 1, 1978, each Tanner crab pot shall contain a mechanism that will destroy its fish catching and holding ability .... if lost or abandoned." For the next five seasons, the harvest was less variable, and catches ranged between 2.5 and 5.6 million pounds (Table 1).

Three other points characterized the first 14 years of the Chignik District fishery. First, the productive grounds included nearly all waters of the District. The offshore waters between Mitrofania Island, Lighthouse Rocks, and the Semidi Islands were the most productive. Second, most of the fishing began in late March after the Kodiak and South Peninsula District fisheries closed. Third, no abundance surveys were conducted during this period. The 5-10 million pound guideline was based upon the harvests of 1974 to 1976/77. Even with the relatively liberal seasons, the guideline was rarely attained.

Since 1981, there have been several changes in the fishery. The department conducted trawl surveys each summer from 1981 to 1984. The surveys predicted poor recruitment after the 1983 fishing season. Harvest projections were drastically reduced for the 1984 and 1985 fisheries.

As predicted, the commercial harvests dropped sharply each season from 1984 to 1986 (Table 1). After a minor increase in 1987, the 1988 catch declined to 183,000 pounds; the lowest harvest in 16 years (Table 1). The catch did not decline uniformly over the grounds, but fell off first and most rapidly in the popular offshore waters. The productive grounds decreased steadily until only Chignik Bay and a few other near shore areas produced crab in 1988.

The dwindling catches, along with attempts to make the District a superexclusive registration area, caused a reduction in the fleet size. In 1983, 48 vessels, including several large, Bering Sea type vessels, participated in the fishery. By 1988 the fleet consisted of four locally owned seine

vessels, one boat from Sand Point, and one 65 foot vessel from Kodiak. Beginning with the 1981 season, the fleet has commenced fishing on the opening date of the season and continued fishing until the district was closed. The altered nature of the fishery prompted several changes to the opening date of the fishery: first to December 15, in 1981/82; then to February 10, for the 1983 and 1984 seasons. In part, the new dates were established to harvest the crab at peak quality. Further, some fishermen hoped the new dates would find the large vessels busy fishing in the Bering Sea thus reducing competition in the Chignik and South Peninsula Districts. However, in the adjoining South Peninsula District, seasons opening in February were found to extend into the crab molting period. Therefore, beginning in 1985, the opening date has been January 15. In 1988, the Board of Fisheries adopted a March 31 closure date because molting was occurring before the former May 15 closure. Since 1990 the Chignik Tanner crab fishing has remained closed due to the low abundance of Tanner crab in the area.

1992 Fishery

The 1992 Tanner crab fishery in the Chignik District did not open. Emergency Order 4-S-01-92 was issued on January 14, 1992 closing the Chignik District to Tanner crab fishing.

Stock Status

The department has conducted a trawl survey in the Chignik District for the past four years. Population estimates of legal crab from the 1992 survey have declined since 1989 from 497,000 legal males to 236,000 in 1991 and down to 46,500 legal Tanners in 1992. Prerecruit crab abundance appears weak, and the Department expects no increase of legal crab to levels of the late 70's, in the near future. The commercial fishing will once again remain closed during 1993.

Table 1. Chignik District Tanner crab catch and effort statistics.

Year	Vssls	Number Lndgs	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Price Pound[b]	Percent Recruits[c]
1968	-	-	-	21,100	-	.-	-	.-	.-
1969	-	-	-	38,100	-	.-	-	.-	.-
1970	-	-	-	2,800	-	.-	-	.-	.-
1971	-	-	-	152,300	-	.-	-	.-	.-
1972				Harvest Confidential					
1973	15	56	297,363	747,788	8,080	2.5	51	.16	.-
1974	25	115	1,586,560	4,054,873	28,083	2.6	57	.20	.-
1974/75	25	91	1,438,508	3,649,444	22,675	2.5	63	.14	.-
1975/76	35	288	2,724,509	6,926,161	52,381	2.5	52	.185	.-
1976/77	21	141	2,098,226	5,672,919	40,604	2.7	52	.33	.-
1977/78	32	140	1,725,042	4,693,830	38,414	2.8	45	.42	.-
1978/79	39	126	926,253	2,536,105	28,378	2.7	33	.55	.-
1979/80	42	155	2,340,004	3,517,920	54,627	2.6	25	.54	.-
1980/81	24	112	1,534,847	3,653,723	44,022	2.4	35	.64	65.6
1981/82	45	174	1,343,500	3,240,576	47,830	2.4	28	1.21	64.7
1983	48	136	1,432,029	3,497,370	60,210	2.4	24	1.12	65.1
1984	17	41	269,724	659,043	14,665	2.4	18	1.09	33.5
1985	15	27	162,448	375,476	15,708	2.3	10	1.42	51.2
1986	6	12	85,697	188,162	7,435	2.2	12	1.97	85.3
1987	10	20	89,329	195,060	7,052	2.2	13	2.28	90.1
1988	6	11	87,148	183,111	6,544	2.1	13	2.33	91.3
1989	6	34	142,470	323,120	9,845	2.3	15	3.05	95.0
1990				NO OPEN SEASON					
1991				NO OPEN SEASON					
1992				NO OPEN SEASON					

[a] Includes deadloss
[b] Computed only for live poundage where price information was available
[c] Recruits = newshell male crab from 137 to 163 mm carapace width

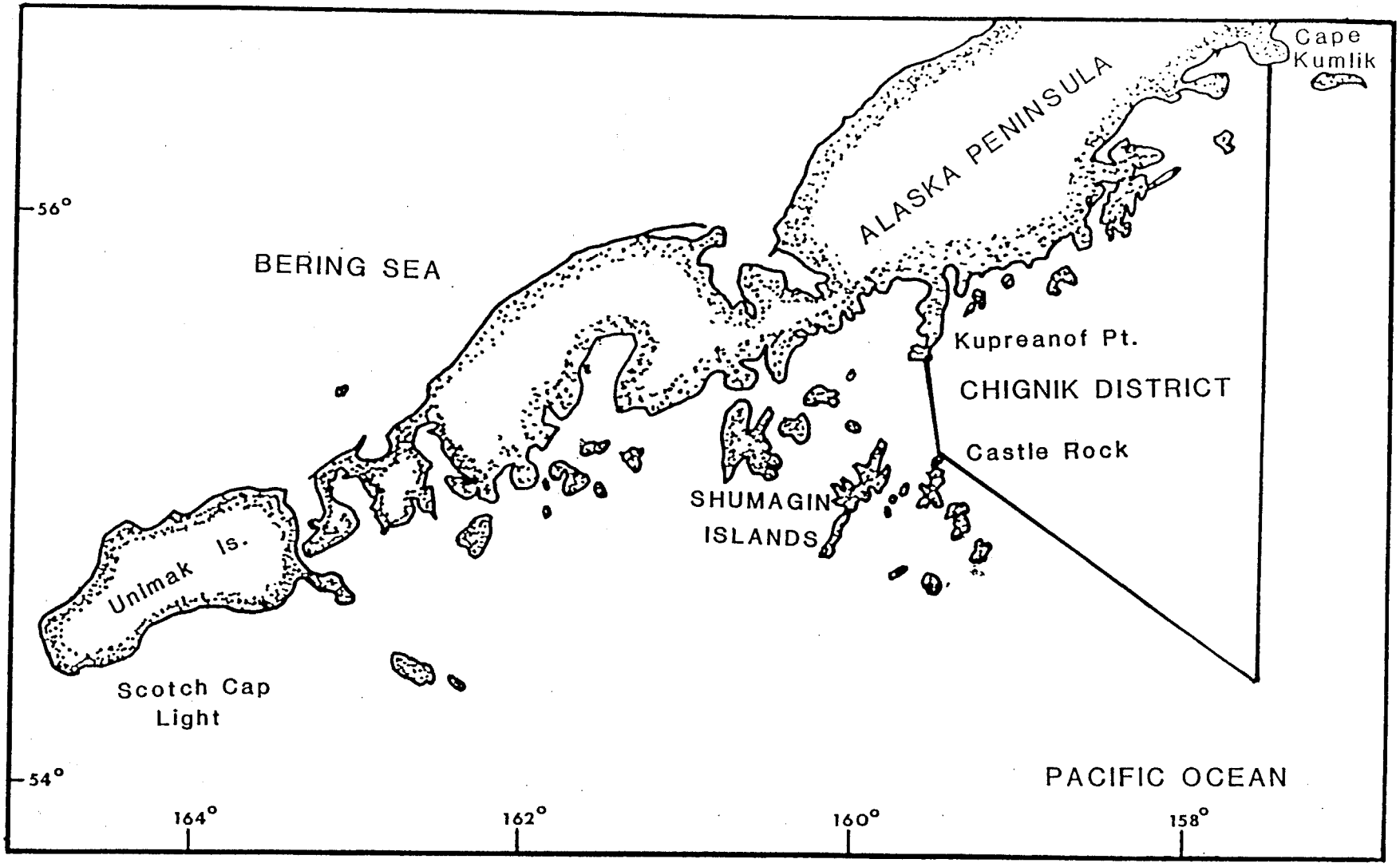

Figure 1. Chignik Tanner crab district.

SOUTH PENINSULA TANNER CRAB

Introduction

The South Peninsula District of Area J includes all waters south of the Alaska Peninsula from Kupreanof Point to Scotch Cap Light on Unimak Island (Figure 1). The first harvest of Tanner crab from the area occurred in 1967 when 3,100 pounds were landed. The fishery grew quickly, and by 1973 harvests exceeded five million pounds (Table 1). In 1974, guideline harvest levels were established. In 1975, seasons were imposed to protect the mating and molting period of the crab. In 1976, the minimum size limit of 5.5 inches across the carapace was established. During the six seasons from 1974 through 1978/79, harvests ranged from 5 to 8 million pounds (Table 1). The fishery peaked in 1978/79 when 9 million pounds of crab were caught (Table 1). From 1979/80 to 1984 the harvest and CPUE declined in response to low recruitment into the population (Table 1). The population reached a low level in 1984 and the fleet only landed 2 million pounds (Table 1). Recruitment improved in the years 1985 through 1988 and the harvest ranged from 2 million pounds to 3 million pounds. In 1989 the harvest decreased to 1 million pounds and recruitment also declined. The fishery was closed during 1990 and 1991 due to the low abundance of legal crab and the lack of recruitment.

1992 Fishery

The 1992 Tanner crab fishery in the South Peninsula District did not open (Table 3). Emergency Order 4-S-01-92 was issued on January 14, 1992 closing the South Peninsula District to Tanner crab fishing.

Stock Status

In 1992 the department conducted a trawl survey in the South Peninsula District to assess king and Tanner crab populations. Total estimated legal crab in the South Peninsula for 1992 was 231,000 crab, down from the 1991 estimate of 354,000 crab. Due to the low abundance of legal male Tanner crab and poor anticipated recruitment in the future, the 1993 Tanner crab fishery also remained closed.

Table 1. Tanner crab catch and effort statistics for South Peninsula District, 1967-1992.

Year	Number Vssls.	Number Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Price Pound[b]	Percent Recruits
1967				3,100					
1968		155	36,835	110,610		3.0			
1969		173	221,946	606,178		2.7			
1970				2,093,600					
1971	17	242	813,610	2,140,585		2.6		.10	
1972				3,618,900					
1973	36	390	2,213,006	5,615,563	53,573	2.5	41		
1974	44	386	3,504,668	8,300,578	58,444	2.4	60		
1974/75	44	131	2,053,530	5,195,800	38,153	2.5	54	.14	
1975/76	36	288	2,724,509	6,926,161	52,381	2.5	52	.20	
1976/77	28	389	2,524,565	6,773,838	63,143	2.7	40	.32	
1977/78	36	374	2,847,948	7,446,270	70,587	2.6	40	.40	
1978/79	48	332	3,267,122	8,684,408	82,374	2.7	40	.51	65.8
1979/80	61	363	2,581,544	6,961,251	96,989	2.7	27	.54	39.5
1980/81	43	268	1,274,539	3,294,106	59,560	2.6	21	.58	34.7
1981/82	72	365	1,815,060	4,589,042	81,008	2.5	22	1.05	50.2
1983	82	230	1,144,096	2,863,798	70,524	2.5	16	1.20	55.4
1984	61	207	775,472	1,789,883	50,726	2.3	15	1.04	29.6
1985	52	184	1,097,182	2,549,686	47,465	2.3	23	1.42	73.0
1986	74	187	1,589,759	3,781,950	65,078	2.4	24	1.72	72.9
1987	54	106	950,300	2,400,784	37,511	2.5	25	2.03	56.1
1988	73	148	1,359,371	3,328,809	52,516	2.5	26	2.20	78.6
1989	65[c]	87	433,112	1,055,082	27,958	2.4	16	2.70	52.9
1990				NO OPEN SEASON					
1991				NO OPEN SEASON					
1992				NO OPEN SEASON					

[a] Includes deadloss
[b] Computed for live crab only
[c] One additional vessel was registered but did not fish in the District

Table 2. Historic vessel size and pot use, South Peninsula District Tanner crab fishery, 1978-1989.

Season	Total Vessels	Vssl. length (ft) Avg.	Vssl. length (ft) Min-Max	Total Pots	Pots Avg/Vssl	Pots Min-Max
1989	65	55.0	37-105	9,251	142	30-290
1988	73	60.5	37-180	11,688	160	70-500
1987	54	56.8	40-106	8,100	150	51-500
1986	75	67.4	40-150	10,804	144	50-325
1985	52	55.7	40-150	6,573	126	62-275
1984	61	56.2	38-150	8,275	135	57-300
1983	82	63.9	38-150	10,713	133	20-400
1981/82	72	69.0	38-135	11,992	166	52-400
1980/81	43	63.7	38-122	6,579	154	40-400
1979/80	62	69.0	41-146.5	NA	NA	NA
1978/79	53	69.4	36-132	6,890	130	30-300

Table 3. Tanner crab commercial fishing periods in the South Peninsula District, 1974-1992.

Year	Open	Closed
1974/75	August 15	June 15
1975/76	November 1	June 30
1976/77	November 1	May 15
1977/78	November 1	May 15
1978/79	November 1	May 15
1979/80	November 1	May 15
1980/81	November 1	May 15
1981/82	December 1	March 13
1982/83	December 15	March 17
1984	February 10	March 10
1985	February 10	March 20
1986	January 15	March 10
1987	January 15	February 5
1988	January 15	January 26
1989	January 15	January 22
1990	Closed	
1991	Closed	
1992	Closed	

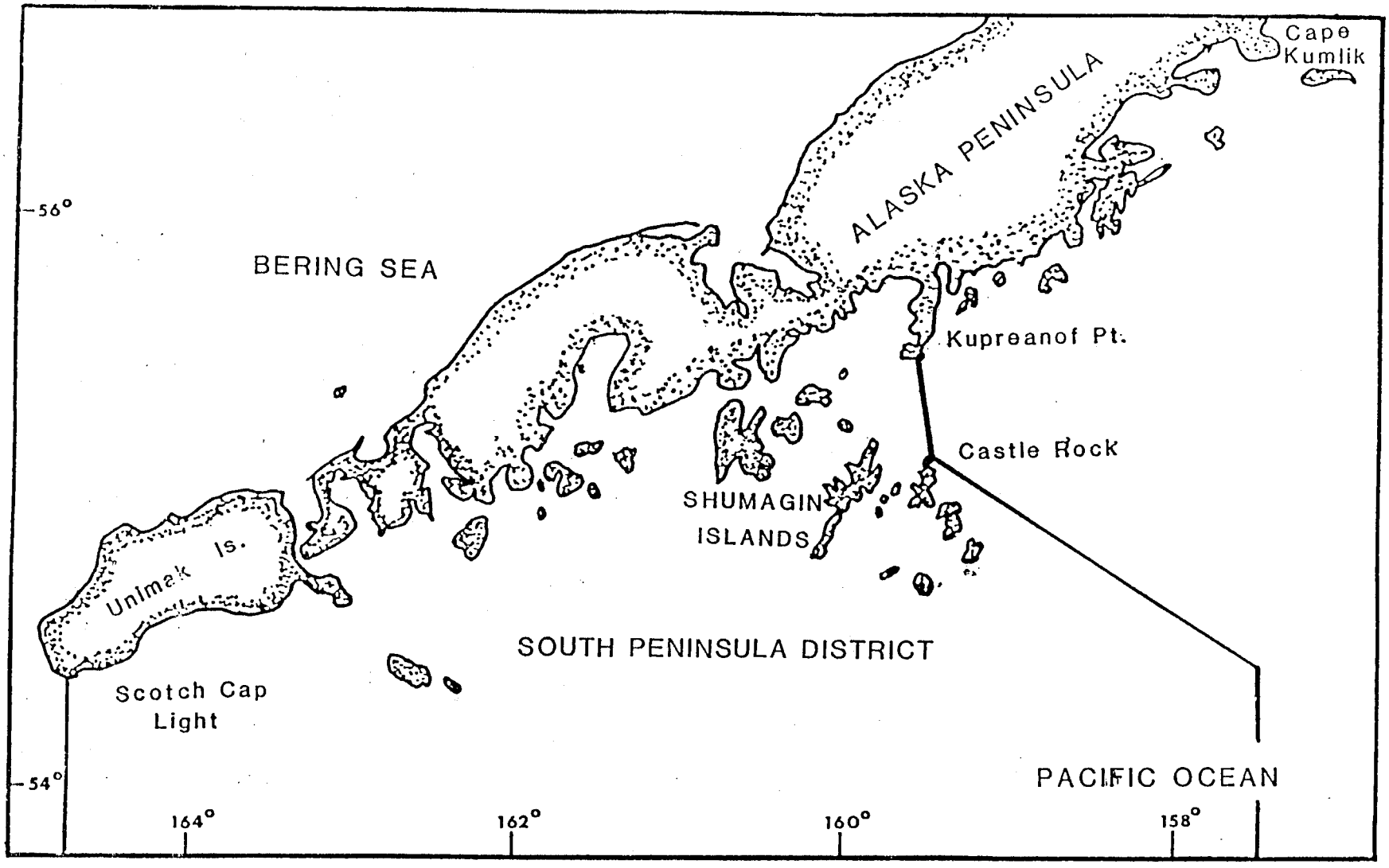

Figure 1. South Peninsula Tanner crab district.

ALASKA PENINSULA DUNGENESS CRAB

Introduction

The Alaska Peninsula District is described as all waters of Statistical Area J west of the longitude of Cape Kumlik (157° 27' W. long.) and east of the longitude of Scotch Cap Light (164° 44' W. long.) (Figure 1).

Historically, Dungeness catches from the district have been sporadic with the highest catch recorded in 1968 when 1.26 million pounds were landed (Table 1). Subsequent effort and catches remained low for many years due to low prices and better prospects in other fisheries. During the early 1980's, the decline in king crab stocks and a stronger market for Dungeness generated a renewed interest in the fishery. Effort grew so quickly that the Board of Fisheries made the Alaska Peninsula District a superexclusive registration district in 1983. The superexclusive regulation has reduced effort in the district and poor catches during the last few seasons have also discouraged participation in the fishery.

Management of the Alaska Peninsula District Dungeness fishery has been by sex, size and season or the "3-S system". Only males greater than 6.5 inches in carapace width may be harvested from May 1 until January 1 or February 1 (the exact closing date has varied over the years). No research including abundance surveys, has been conducted on the Dungeness stocks in this area. Management activity has been limited to monitoring the deliveries and recording the harvest.

1992 Fishery

The Alaska Peninsula Dungeness crab season opened May 1st. Less than three vessels fished and made landings in the South Peninsula during 1992, thus the catch records are confidential.

Stock Status

Limited data on the population size and structure in the Alaska Peninsula District are derived from skipper interviews and commercial catch sampling. The Chignik fishery appears to be a recruit fishery as over 92 percent of the 1988 catch, nearly 96 percent of the 1987/88 catch and 76 percent of the 1986/87 catch were recruit crab. (Recruits are assumed to be new-shell legal males less than 194 mm carapace width.) Small samples taken during the last few seasons make it difficult to draw conclusions about the age and size structure of the Chignik Dungeness population.

From 1982/83 to 1985 the South Peninsula and Chignik Dungeness populations appeared stable (Table 1). The drastic declines of the 1986 and 1987 harvests indicate a loss of stability and a significant decline in the population of Dungeness (Table 1). Over the last seven seasons, fishing pressure may have reduced the numbers of legal sized crabs that may have accumulated when there was low interest in the fishery. Although no samples were taken in 1987 and 1988, the 491

crab sampled in 1986 showed that 75 percent of the harvest was made up of recruit crab. Therefore, as in Chignik, the South Peninsula Dungeness harvest appears to be dependent upon yearly recruitment.

Since the department does not survey the Dungeness population there is no way to predict harvests or recruitment for the 1993 fishery. Dramatic cycles of low and high abundance have been observed in other Dungeness fisheries. The department has observed abnormally high catches of small Dungeness crab during the summer trawl survey in the Chignik area. If these crab survive and recruit into commercial sized animals, the commercial catch should increase in the future.

Table 1. Dungeness crab harvest statistics, Alaska Peninsula District, 1968-1992.

Year	Vssls	Lndgs	No. of Crab[a]	No. of Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1968	NA	NA	434,142	1,259,013	NA	NA	2.9	NA
1969	NA	NA	411,000	1,056,000	NA	NA	NA	NA
1970	NA	NA	4,200	13,000	NA	NA	NA	NA
1971	NA	NA	3,900	11,000	NA	NA	NA	NA
1972	NA	NA	29,400	65,000	NA	NA	NA	NA
1973			Confidential					
1974			NO EFFORT					
1975			NO EFFORT					
1976			NO EFFORT					
1977			NO EFFORT					
1978			NO EFFORT					
1979			Confidential					
1980			NO EFFORT					
1981/82			Confidential					
1982/83	16	79	357,955	779,600	59,265	6	2.2	$ .75
1983/84	18	132	565,430	1,207,128	113,061	5	2.1	$ .97
1984/85	13	99	294,191	647,497	106,056	3	2.1	$ 1.38
1985/86	7	31	239,202	488,107	52,117	5	2.0	$ 1.26
1986/87	6	28	87,925	180,261	30,280	3	2.0	$ 1.05
1987/88	6	21	88,744	182,706	22,588	4	2.1	$ 1.11
1988			Confidential					
1989			Confidential					
1990	4	10	31,074	65,806	5,225	6	2.1	$ 1.53
1991	7	18	39,069	80,248	12,813	3	2.1	$ 1.24
1992			Confidential					

NA = Not Available

[a] Includes deadloss

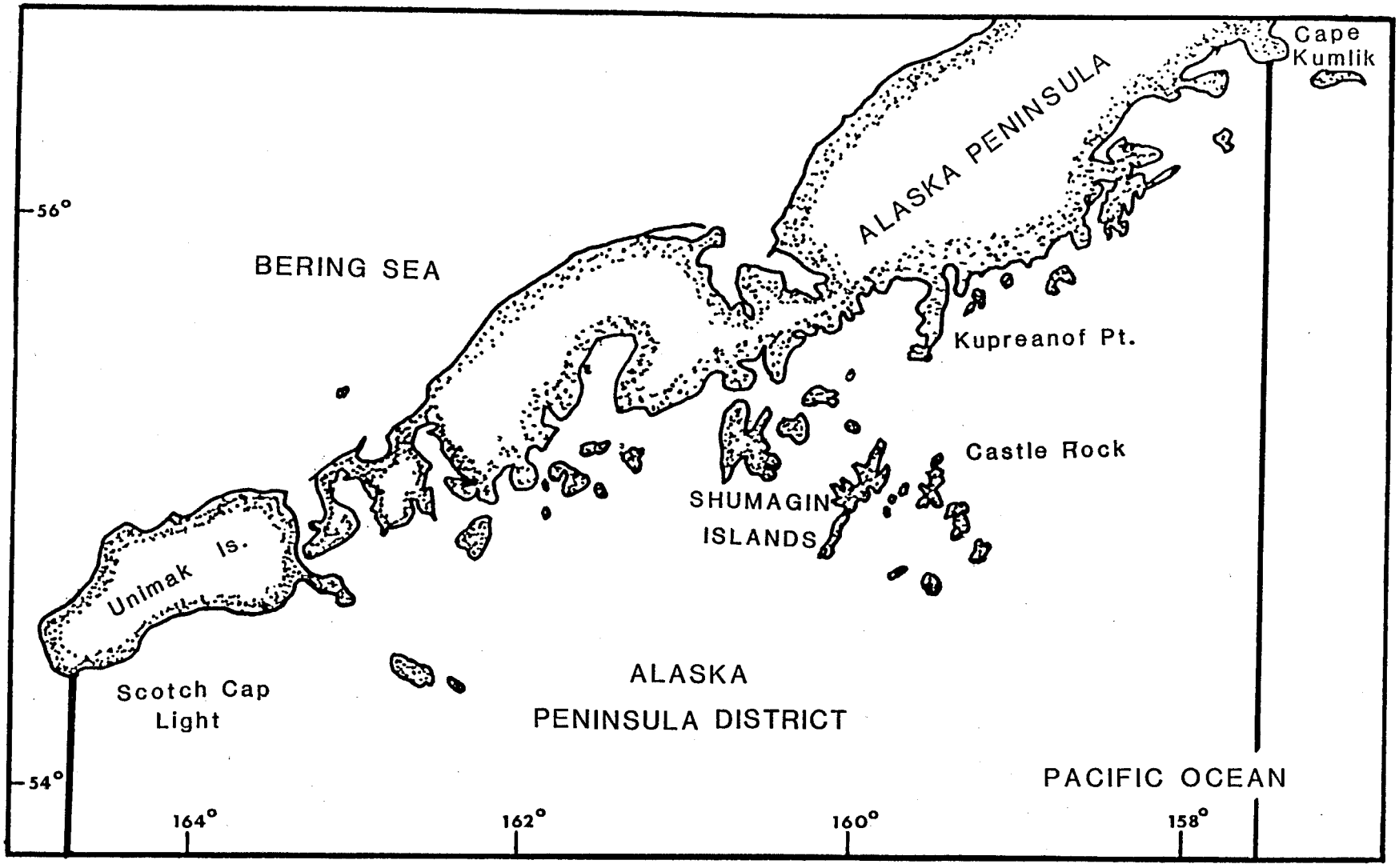

Figure 1. Alaska Peninsula Dungeness district.

ALASKA PENINSULA SHRIMP

Introduction

Shrimp fishing in the Alaska Peninsula began in 1968 when 5.9 million pounds were landed (Figure 1, Table 1). Catch levels remained relatively low until the 1972/73 season when 19.6 million pounds were harvested (Table 1). The historic high catch was reached in 1977/78 with 71.5 million pounds. Catches declined rapidly until all South Peninsula sections were closed in 1980. Although the Sutwik Island Section and all offshore waters of the Chignik District remained open in 1981/82, only 70,948 pounds of shrimp were landed from the area.

1992/93 Season Summary

During the 1992/93 season, none of the inshore shrimp sections were opened to fishing in the Chignik and South Peninsula Districts. No vessels registered and no deliveries were made from the offshore sections open to fishing.

Stock Status

During 1992 the Department of Fish and Game conducted a trawl survey in the portion of the Chignik District. National Marine Fisheries Service surveyed the Pavlof section of the South Peninsula District. A total of 13 shrimp tows were made in the Chignik District while 22 tows were made in the Pavlof section.

The catch of shrimp in the Chignik District averaged 246 pound per nautical mile trawled. The Chignik Bay section population estimate was 2.0 million pounds. The minimum acceptable biomass index to warrant a fishery in Chignik is 4.55 million pounds. Although Chignik will not open to commercial fishing the population appears to be rebuilding. The catch of shrimp in the Pavlof section averaged 17 pounds per mile towed which generated a population estimate for this area of 393,600 pounds. Shrimp populations in the Pavlov Bay section are severely depressed. No significant recovery is anticipated until fish populations decline dramatically.

Table 1. Historic South Peninsula and Chignik District shrimp harvest statistics.

Year	South Peninsula Vssls.	South Peninsula Lndgs.	South Peninsula No. Pounds	South Peninsula Price/Lb.	Chignik Vssls.	Chignik Lndgs.	Chignik No. Pounds	Chignik Price/Lb.
1968		Harvest Confidential					1,153,721	$ -
1969		Harvest Confidential					419,830	-
1970	4	173	4,398,800	.04	-	-	890,705	-
1971		Harvest Confidential				27	1,091,711	.04
1972/73	-	-	14,740,801	.07	-	-	4,829,117	-
1973/74	12	347	19,987,246	.07	33	277	51,673,788	.08
1974/75	22	387	26,145,720	.08	37	323	23,392,352	.08
1975/76	24	326	20,044,112	.09	50	334	24,435,480	.08
1976/77	19	424	37,148,932	.09	48	303	27,232,630	.10
1977/78	48	409	45,003,794	.13	50	271	26,512,791	.13
1978/79	23	108	9,418,276	.16	40	201	23,257,869	.17
1979/80	10	41	3,134,367	.21	35	195	23,722,330	.23
1980/81	-	-	CLOSED	-	54	148	12,843,270	.29
1981/82	-	-	CLOSED	-	3	4	70,948	.27
1982/83	-	-	NO DELIVERIES	-	-	--	NO DELIVERIES	-
1983/84	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1984/85	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1985/86	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1986/87	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1987/88	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1988/89	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1989/90	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1990/91	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1991/92	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-
1992/93	-	-	NO DELIVERIES	-	-	-	NO DELIVERIES	-

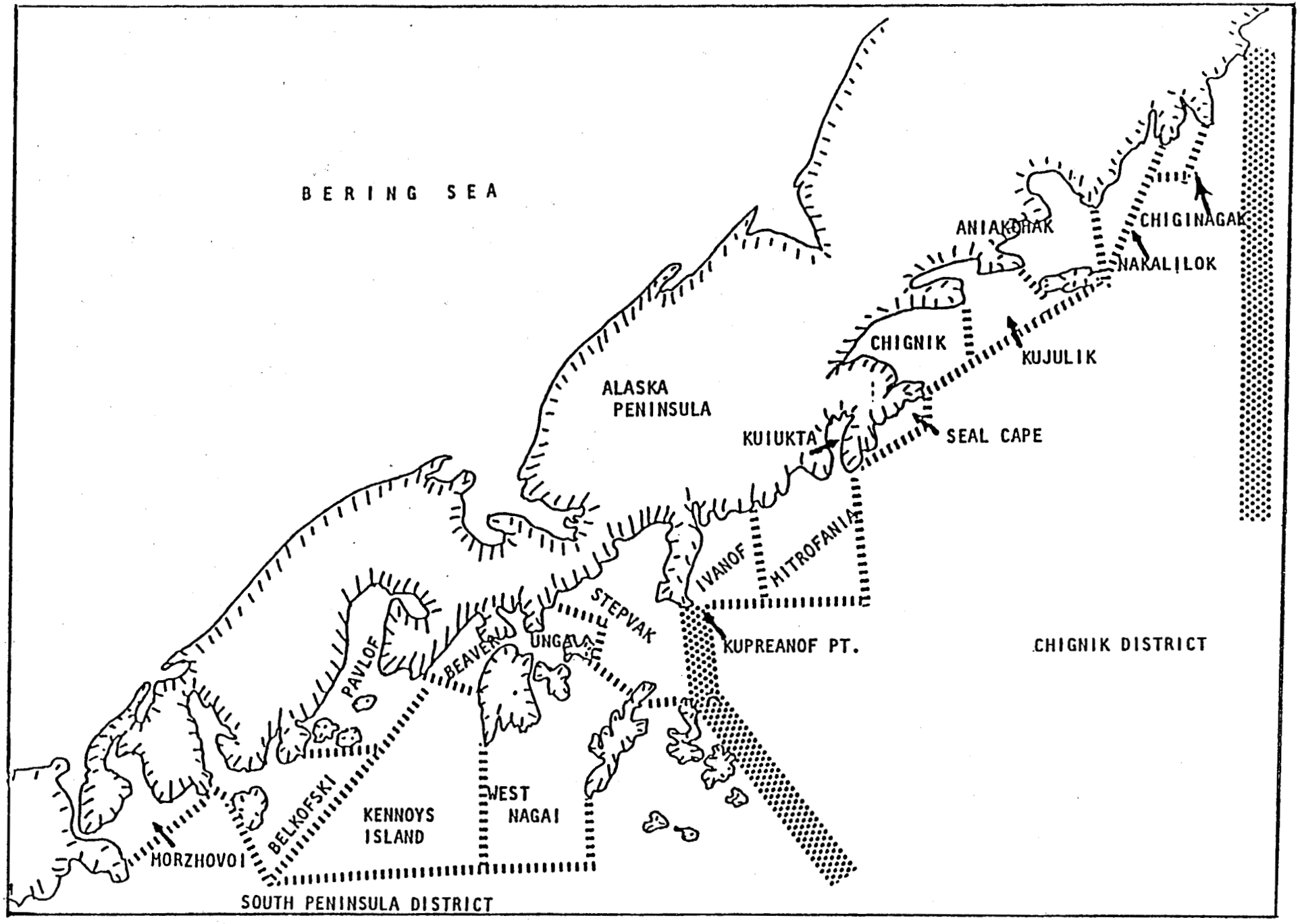

Figure 1. South Peninsula and Chignik shrimp sections.

ALASKA PENINSULA MISCELLANEOUS SPECIES

Introduction

Fishermen have occasionally plied the waters of the Alaska Peninsula for snails, pot shrimp, octopus, squid, hair crab, and other less commonly sought species. Octopus was the only species fished in 1992 with a description of the fishery given below. Discussions of other fisheries appear in previous years' issues of the *Westward Regional Shellfish Report To The Alaska Board Of Fisheries*, Alaska Department of Fish and Game, Kodiak, Alaska.

Octopus

Octopus is the most frequently harvested of the miscellaneous species in the Alaska Peninsula District. Processors usually freeze the octopus for resale as halibut bait. Table 1 shows the historic delivery records of octopus in the Alaska Peninsula. The tables do not include the octopus caught and retained by fishermen for personal food and bait use.

Until 1988 octopus were usually taken incidentally during the Tanner crab fishery. Since then, octopus has been landed by trawl and pot fishermen targeting codfish. The 1992 catch of octopus was 68,190 pounds landed by 77 vessels. No population information is available for the Alaska Peninsula octopus.

Table 1. Historic deliveries of octopus in the Alaska Peninsula District.

Year	Vssls.	Lndgs.	Pounds	Avg. Price
1980		Harvest Confidential		
1981		Harvest Confidential		
1982		Harvest Confidential		
1983		Harvest Confidential		
1984		NO FISHING		
1985		Harvest Confidential		
1986		NO FISHING		
1987		NO FISHING		
1988	30	185	43,332	$ .92
1989	27	122	14,890	$1.00
1990	20	83	11,504	$1.00
1991	30	106	21,812	$1.00
1992	77	292	68,190	$1.00

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE EASTERN ALEUTIANS AREA, 1992

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DUTCH HARBOR RED KING CRAB

Introduction

The Dutch Harbor area or Statistical Area O, has as its eastern boundary the longitude of Scotch Cap Light on Unimak Island, and as its western boundary 171° West longitude. The 800 fathom depth contours are the seaward boundaries. Area O is further broken down into five fishing districts (Figure 1). Although red king crab is the primary target species, brown king crab production is on the increase.

Historic Background

The Area O red king crab fishery began in 1961 and rapidly became one of the State's major production areas. During the development years of the fishery, the catch peaked at an all time high of 32.9 million pounds in 1966/67.

Since 1966/67 the fishery has fluctuated widely. A sharp decline characterized the fishery between 1967 and 1970 (Table 1). After the low 1969/70 catch of 8.9 million pounds, the fishery gradually rebuilt to a peak of 15.9 million pounds during the 1975/76 season (Table 1). The increase appeared to be largely a result of improved catches in the Egg Island District, and expansion into new grounds of the Western District.

For the second time in the history of the fishery, a sharp decline followed several years of increasing harvests, and the 1977/78 season marked a new low in the Area O fishery (Table 1). The decline was area wide, and all districts suffered poor catches.

By 1980/81 catches had reached the highest level in 13 years, and although populations had rebuilt somewhat in several of the districts, the bulk of the increase was due to the exploitation of previously unfished populations in the Unalaska and Western Districts (Table 1). In 1980/81 nearly 39 percent of the catch came from areas only lightly fished during previous seasons.

1992/93 Fishery

The 1992/93 Dutch Harbor red king crab fishery was not opened due to low population abundance.

Stock Status

The Department did not conduct a survey of the Dutch Harbor area in 1992. A ten day survey occurred in 1991 and placed emphasis on areas where historically significant fisheries had occurred and where juvenile and female king crab should have been concentrated. The survey indicated a very low stock abundance and no improvement in these stocks since the area was

closed in 1983. The 1991 survey did not indicate any change in the Dutch Harbor king crab stock abundance could be expected in the near future.

Table 1. Dutch Harbor, Area O, historic red king crab catch.

Season	Opened	Closed	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Min. Size	Avg.Price Per #
1968/69	01/01[b]	03/15	NA	NA	NA	11,300,000	NA	NA	NA	7.0"	NA
1969/70	09/15	02/15	41	375	NA	8,950,000	72,683	NA	NA	7.0"	NA
1970/71	09/15	01/10	32	268	NA	9,652,000	56,198	NA	NA	7.0"	NA
1971/72	09/15	10/23	32	210	1,447,692	9,391,615	31,531	6.5	46	6.5"	NA
1973/74	11/01	11/24	56	290	1,780,673	12,722,696	41,840	7.1	43	6.5"	$ .65
1974/75	11/01	01/14	87	372	1,812,647	13,991,129	71,821	7.7	25	6.5"	$ .37
1975/76	11/01	01/10	79	369	2,147,350	15,906,666	86,874	7.4	25	6.5"	$ .42
1976/77	11/01	12/07	72	226	1,273,298	9,367,965	65,796	7.4	10	6.5"	$ .64
	12/13	01/13	38	61	86,619	830,458	17,298	9.6	5	8.0"	$ .79
1977/78	09/15	12/08	33	227	539,656	3,658,860	46,617	6.8	12	6.5"	$ .99
	12/08	01/05	6	7	3,096	25,557	812	8.3	4	7.5"	$1.35
1978/79	09/10	11/20	60	300	1,233,758	6,824,793	51,783	5.5	24	6.5"	$1.35
1979/80	09/10	01/10	104	542	2,551,116	15,010,874	120,554	5.9	21	6.5"	$ .90
1980/81	11/01	01/12	114	830	2,772,287	17,660,642	231,607	6.4	12	6.5"	$1.02
	01/15	02/15	54	120	182,349	1,392,923	30,000	7.6	6	7.5"	$1.03
1981/82	11/01	02/15	92	683	741,966	5,155,345	220,087	6.9	3	6.5"	$2.30
1982/83	11/01	01/15	81	278	64,380	431,179	72,924	6.7	1	6.5"	$3.43
1983/84					C L O S E D						
1984/85					C L O S E D						
1985/86					C L O S E D						
1986/87					C L O S E D						
1987/88					C L O S E D						
1988/89					C L O S E D						
1989/90					C L O S E D						
1990/91					C L O S E D						
1991/92					C L O S E D						
1992/93					C L O S E D						

[a] Includes deadloss

[b] Prior to 1968/69 fishery was open 12 months/year. 1968/69 season ran 1-1-68 to 3-15-69

DUTCH HARBOR BROWN KING CRAB

Historic Background

Historically, Dutch Harbor brown king crab have been taken incidental to the red king crab fishery. Incidental catches of brown king crab were small and landings of red king crab included some brown king crab prior to the 1981/82 season, but the poundage was not recorded separately.

During the 1981/82 season, six vessels landed over 115,000 pounds during the red king crab season. Only one landing occurred during January 1982, and the season closed along with the area red king crab season on January 15 (Tables 1 and 2).

Interest in the fishery continued to grow and during the 1982 and 1983 seasons, 49 vessels landed over 1.1 million pounds in the area's first directed brown king crab fishery, (Table 2). As red king crab stocks continued to decline, effort and interest continued into the 1983/84 season, and 1.8 million pounds was landed by 47 vessels, (Table 2).

In 1984, the Board of Fisheries adopted staff proposals to lower the brown king crab size limit from 6.5 inches to 6.0 inches and established the area as a permit fishery to allow the fishery to expand into other areas outside the historical fishing grounds. During the 1984 permit season, prices and effort dropped, but 13 vessels managed to land 1.5 million pounds (Tables 1 and 2). Since the permit system was implemented, the fishery has averaged over 1.6 million pounds per year. All landings have occurred from historical grounds developed during the 1982/83 season.

During the 1988 spring shellfish meetings, the Board of Fisheries adopted the staff proposal removing the permit fishery designation and set an opening date for September 1.

1992/93 Fishery

The fishery opened at 12:00 noon, September 1, with nine vessels registering, of which five were catcher processors. This effort is two less than the 1991 season and the smaller effort levels can be attributed to interest by the fleet in the St. Matthew blue king crab fishery that opens at the same time.

A total of ten vessels landed 1.4 million pounds of brown king crab, the same as the 1991/92 season. The average size of the crab for the past three seasons remains constant at 4.3 pounds, (Table 1).

Fishing effort was diminished when the Bristol Bay red king crab fishery opened on November 1. The season was closed by emergency order on November 17.

Stock Status

There is not a current survey of the Dutch Harbor brown king crab stocks. Fishing seasons are managed based on inseason and historic catch data. Brown king crab were tagged during the summer of 1991 on an ADF&G tagging charter. Tag returns and observer data will assist with the future management of this fishery.

Table 1. Historic brown king crab catch in Dutch Harbor statistical Area O.

Season	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	CPUE	Percent Oldshell	Avg. Wt.	Average Length	Pounds of Deadloss
1981/82	6	16	22,666	115,715	2,906	8	3.8	5.1	158.1	8,752
1982/83	49	136	227,471	1,184,971	29,369	8	3.9	5.2	158.1	47,479
1983/84	47	132	328,353	1,810,973	29,595	11	NA	5.5	NA	45,268
1984[b]	13	67	327,440	1,521,142	24,044	14	NA	4.6	161.2	70,362
1985	13	67	410,977	1,968,213	34,287	12	16.0	4.7	155.7	38,663
1986	17	71	400,389	1,869,180	37,585	11	-	4.7	NA	9,510
1987	22	77	299,734	1,383,198	43,017	7	25.0	4.6	149.6	24,210
1988[c]	21	57	323,695	1,545,113	40,869	8	23.0	4.8	154.3	22,960
1989/90	13	70	424,067	1,852,249	43,345	10	30.0	4.4	150.9	17,421
1990/91	16	68	395,502	1,718,848	54,618	7	3.0	4.3	147.5	42,800
1991/92	11	50	335,647	1,447,732	40,604	8	4.0	4.3	147.9	45,100
1992/93	10	44	330,159	1,357,048	37,718	9	4.0	4.3	147.8	37,200

[a] Includes deadloss
[b] Six inch permit season opened July 1
[c] Season opening date established September 1

Table 2. Historic Dutch Harbor brown king crab economic performance.

Year	GHL[a]	Season Total[b]	Number Pots Registered	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[c]	Season Length Days/Dates
1981/82	N/A	0.1	-0-[d]	6	16	2,906	$ 2.05	$ 0.2	75-11/01-1/15
1982/83	N/A	1.1	-0-[d]	49	136	29,369	$ 3.00	$ 3.3	105-11/1-2/15
1983/84	N/A	1.8	4,514	47	132	29,595	$ 3.05	$ 5.5	105-11/1-2/15
1984/85	N/A	1.5	1,394	13	67	24,044	$ 1.35	$ 2.0	229-7/01-2/15
1985/86	N/A	1.9	1,479	13	67	34,287	$ 2.00	$ 3.8	121-7/1-10/31
1986/87	N/A	1.8	1,575	17	71	37,585	$ 2.85	$ 5.1	182-7/1-12/31
1987/88	N/A	1.4	3,591	22	77	43,017	$ 2.85	$ 4.0	62 -7/01-9/02
1988/89	N/A	1.5	4,215	21	57	40,869	$ 3.00	$ 4.5	93-9/01-12/04
1989/90	N/A	1.8	5,635	13	70	43,345	$ 3.50	$ 6.3	104-9/1-12/15
1990/91	N/A	1.7	5,225	16	68	54,618	$ 3.00	$ 5.1	68-9/01-11/09
1991/92	N/A	1.4	3,760	11	50	40,604	$ 2.00	$ 2.8	74-9/01-11/15
1992/93	N/A	1.3	4,222	10	44	37,718	$ 2.50	$ 3.3	76-9/01-11/17

[a] Based on historic catches, 1983/84 - 1991/92.
[b] Millions of pounds.
[c] Millions of dollars.
[d] Incidental catches to red king crab fishery.

Table 3. Brown king crab harvest composition, Area O, Dutch Harbor.

Season	-----Season----- Opened	Closed	No. Pounds[a]	Size Limit	Price Per Lb.
1981/82	11/01	01/15	115,715	6½"	$ 2.05
1982/83	11/01	02/15	1,284,971	6½"	$ 3.00
1983/84	11/01	02/15	1,810,973	6½"	$ 3.05
1984[b]	07/01	12/31	1,521,142	6"	$ 1.35
1985	01/01	02/15	177,995	6"	$ 1.70
	07/01	10/31	1,799,656	6"	$ 2.00
1986[b]	07/01	12/31	1,869,180	6"	$ 2.85
1987	07/01	09/02	1,383,198	6"	$ 2.85
1988	09/01	12/04	1,545,113	6"	$ 3.00
1989/90	09/01	02/15	1,852,249	6"	$ 3.50
1990/91	09/01	11/09	1,718,848	6"	$ 3.00
1991/92	09/01	11/15	1,447,732	6"	$ 2.00
1992/93	09/01	11/17	1,375,048	6"	$ 2.50

[a] Deadloss included
[b] Partial closure 9/27 west of 169°30'

Table 4. 1992/93 preliminary Dutch Harbor brown king crab catch by month.

Month	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds of Deadloss
Sept	8	24	177,257	731,438	19,793	4.1	9	2,100
Oct	9	20	152,902	643,610	17,925	4.2	8	35,100
Season Total	10	44	330,159	1,375,048	37,718	4.2	9	37,200

[a] Deadloss included

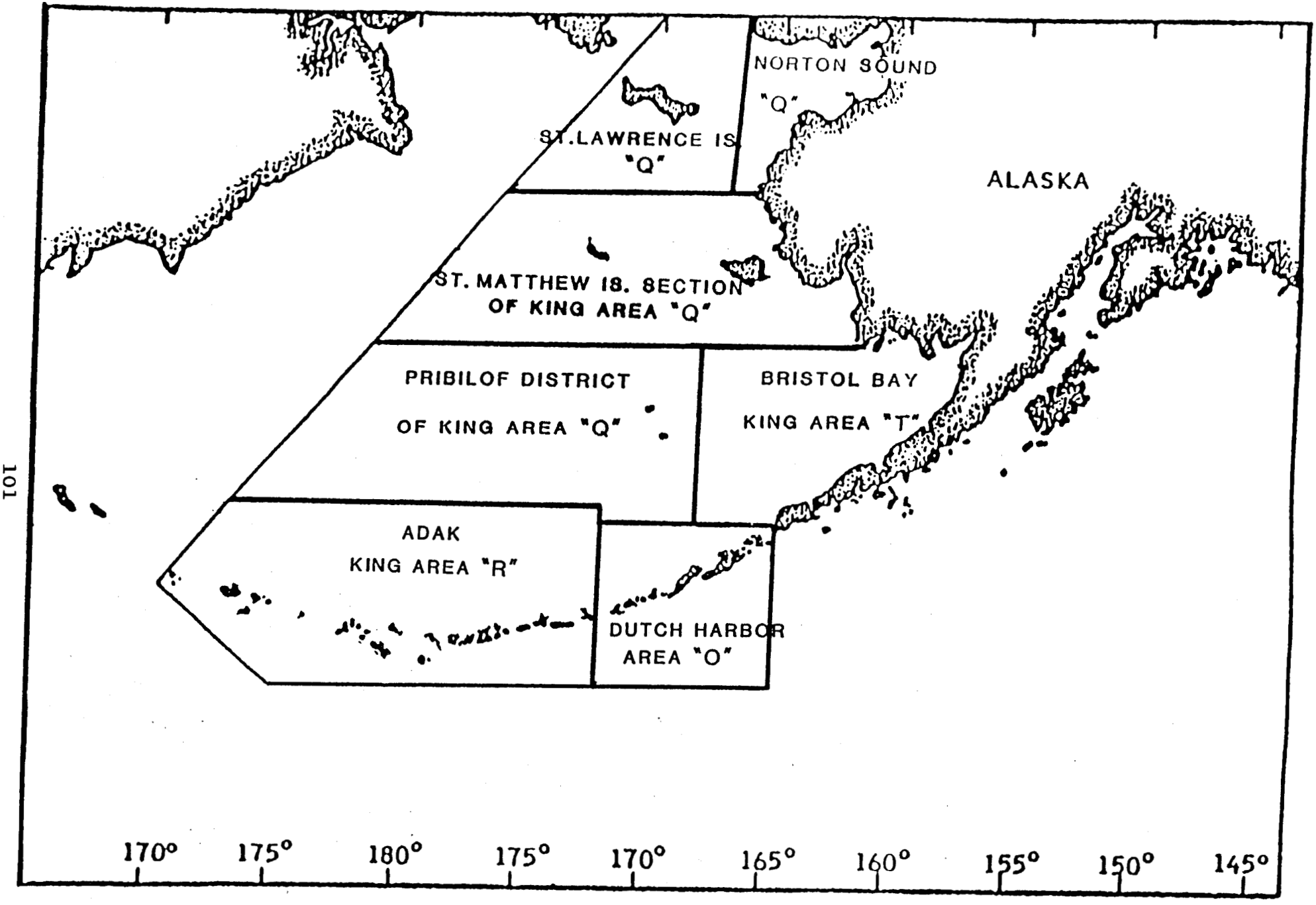

Figure 1. Dutch Harbor registration area "O".

EASTERN ALEUTIAN TANNER CRAB

Introduction

The Eastern Aleutian District is marginal habitat for *Chionoecetes bairdi*, evidenced by the presence of commercial quantities of crab in only a few major bays and inlets. The fishery has been rather small, and although the 1977/78 season produced a record 2.4 million pounds, seasonal catches have remained significantly less than one million pounds (Table 1). The fishery began in Akutan and Unalaska Bays but has since expanded to include all the known areas with Tanner crab.

1992 Fishery

The fishery opened at 12:00 noon January 15, with four vessels registering, similar to the 1991 opening in which three vessels registered. By early February the number of registered vessels increased to six; of which four made landings in 1992. The Eastern Aleutian District closed to Tanner crab fishing by regulation on March 31, 1992.

The catch for the season was 99,000 pounds, double the catch for 1991. This was still the second smallest catch on record (Table 1). All of the catch came from waters surrounding Unalaska Island, with 69% coming from Unalaska Bay. For the past few years productive grounds around Akutan and Umnak Islands have not been fished. This is due to the small size of the vessels, all of which are located in Dutch Harbor.

There has been little variation in average weight of crab since the fishery began; ranging between 2.2 and 2.5 pounds per crab. The catch per unit of effort has been stable since 1981 at about 11 crab per pot after high rates of four and five times this level during the first seven years of this fishery.

Stock Status

In August of 1991, for the second year in a row, a trawl survey was conducted in the Eastern Aleutian district to determine the number of crab in the area. This survey indicated that the *C. bairdi* population was at a low level and was very similar to the population during the 1990 survey. A quota of 80,000 pounds was established for the 1992 fishery, up slightly from the 70,000 pound quota for 1991. No survey was conducted in 1992, thus no quota was derived for 1993. The fishery is expected to perform similar to 1992's and will be managed inseason.

Table 1. Historic 5½ inch *Chionoecetes bairdi* fishery statistics from the Eastern Aleutian District.

Season	Opened	Closed	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	Average Weight	CPUE	Price per Pound
1973/74	10/1	7/31	6	14	210,539	498,836	NR[b]	2.4	60	$ .NR
1974/75	1/18	10/15			C o n f i d e n t i a l					
1975/76	1/20	10/15	8	13	219,166	534,295	4,646	2.4	47	.196
1976/77	11/7	6/15	12	35	544,755	1,239,569	9,640	2.3	57	.30
1977/78	11/1	6/15	15	198	1,104,631	2,494,631	29,855	2.3	37	.38
1978/79	11/1	6/15	20	174	542,081	1,280,115	18,618	2.4	20	.52
1979/80	11/1	6/15	18	107	352,819	886,487	18,040	2.4	20	.52
1981	1/15	6/15	29	119	264,238	654,514	21,771	2.4	12	.58
1982	2/15	6/15	31	138	332,260	739,694	30,109	2.2	11	1.25
1983	2/15	6/15	23	107	250,774	547,830	22,168	2.1	11	1.20
1984	2/15	6/15	16	91	104,761	239,585	11,069	2.3	9	.98
1985	1/15	6/15	6	56	71,918	165,529	5,620	2.3	13	1.30
1986	1/15	6/15	9	37	73,187	167,339	10,244	2.3	7	1.50
1987	1/15	6/15	7	63	71,338	160,292	5,294	2.2	13	2.00
1988	1/15	4/10	19	130	129,468	309,918	11,011	2.4	12	2.10
1989	1/15	5/07	12	109	144,746	326,396	14,685	2.2	10	2.90
1990	1/15	4/09	10	75	73,269	171,785	6,858	2.3	11	1.85
1991	1/15	3/31	5	27	21,511	50,038	1,849	2.3	12	1.25
1992	1/15	3/31	6	29	42,096	98,703	2,963	2.3	14	1.75

[a] Deadloss included beginning 1980

[b] No record

Table 2. *Chionoecetes bairdi* catch by month for the Eastern Aleutian District for 1992 season.

Month	Vssls	Lndgs	Crab	Pounds	Pots Lifted	Avg. Wt.	CPUE	Dead-loss (lbs.)
Jan	4	6	5,934	13,213	591	2.2	10	0
Feb	3	12	18,557	45,218	1,152	2.4	16	0
Mar	3	11	17,605	40,272	1,220	2.3	14	0
TOTAL	4	29	42,096	98,703	2,963	2.3	14	0

Table 3. *Chionoecetes bairdi* catch by statistical area for the Eastern Aleutian District, 1992.

Area	Lndgs	Crab	Pounds	Lifted	Pots Wt.	Avg. CPUE	Dead-loss (lbs.)
665332	6	3,174	7,506	467	2.4	7	0
665335	18	28,933	68,055	1,051	2.4	28	0
675331	9	8,403	19,425	1,271	2.3	7	0
Other	3	1,586	3,717	174	2.3	9	0
TOTAL	29	42,096	98,703	2,963	2.3	14	0

ALEUTIAN ISLANDS DUNGENESS CRAB

Introduction

The Aleutian District includes all water of statistical Area 'J' west of the longitude of Scotch Cap Light and south of the latitude of Cape Sarichef and encompasses all the Aleutian Islands.

The islands in the Aleutian chain are separate from each other by deep passes and swift currents and are closely bordered on the north and south by deep trenches. Red and brown king crab are found in the deep waters adjacent to the "Chain", but the Dungeness crabs prefer the shallower bays. The shallow areas suitable to Dungeness populations are few, helping to explain the low effort and small Dungeness populations in the district.

Historic Background

The Aleutian District fishery is primarily a small vessel, summer fishery occurring in the vicinity of Unalaska Island and within Unalaska Bay. Some larger vessel effort has occurred in other bays on the Island. Effort in these areas has been sporadic throughout the history of the fishery.

Interest and activity in the fishery has been very erratic from year to year, with the first reliable reports made in 1970. The greatest catch reported prior to the 1984/85 fishery was 60,517 pounds reported in 1974, (Table 1). Since 1974, deliveries have ranged from zero in 1976, 1977, 1980, and 1981 to over 91,000 pounds reported in 1984/85, (Table 1).

1992 Fishery

The Aleutian District opened to Dungeness crab fishing on May 1 to a lack of interest by the fleet. The first vessel registration occurred on June 15. Minimal effort occurred throughout the summer. Three additional vessels entered the fishery after August, with ninety-one percent of the harvest occurring during this period. There were 13 landings during 1992, of which 11 came from effort in Unalaska Bay. Ninety-three percent of the catch came from Unalaska Bay. The rest of the catch came from areas adjacent to Unalaska Island.

Table 1. Historic Dungeness crab catch and associated data in the Aleutian District.

Year	Season	Vessels	Landings	Crab	Pounds	Pots Lifted	Avg. Wt.	CPUE	Price Per Pound
1974	1-1/12-31		Confidential						
1975	1-1/12-31		Confidential						
1976	5-1/12-31		N O C A T C H						
1977	5-1/12-31		N O C A T C H						
1978	5-1/12-31		Confidential						
1979	5-1/12-31		Confidential						
1980	5-1/12-31		N O C A T C H						
1981	5-1/12-31		N O C A T C H						
1982/83	5-1/2-1		Confidential						
1983/84	5-1/2-1		Confidential						
1984/85	5-1/2-1	4	50	40,128	91,739	13,555	2.3	3	$1.15-$1.50
1985	5-1/2-1		Confidential						
1986	5-1/12-31		Confidential						
1987	5-1/12-31	5	43	13,247	26,627	2,987	2.0	4	$ .95
1988	5-1/12-31	6	45	10,814	22,634	2,581	2.1	4	$ .90
1989	5-1/12-31	4	31	5,165	11,124	2,078	2.1	2	$ .90
1990	5-1/12-31	3	11	8,379	17,365	1,345	2.1	6	$ .90
1991	5-1/12-31	4	14	3,654	7,412	732	2.0	5	$1.25
1992	5-1/12-31	4	13	2,854	5,649	555	2.0	5	$ .80

ALEUTIAN ISLANDS SCALLOPS

Historic Background

Two scallop vessels pioneered the weathervane scallop fishery in the Aleutian Islands in 1985. The fishery peaked in 1986 and has since declined with minimal effort (Table 1). In 1991 a new vessel entered the fishery. It deployed mechanical shuckers and was designed to target *Chlamys* scallops.

1992 fishery

One vessel fished scallops in 1992. This data is confidential. The catches from the Westward Region have been combined and presented in the table found in the Kodiak section of this report.

Table 1. Historic scallop fishery statistics for the Eastern Aleutians District.

Season	Vssls	Lndgs	Pounds	Drags	Avg. Lbs./Drag	Avg. Price/#
1985			Confidential			
1986	5	37	406,642	8,754	46	$3.50
1987			Confidential			
1988			Confidential			
1989			Confidential			
1990			Confidential			
1991			Confidential			
1992			Confidential			

ALEUTIAN ISLANDS TRAWL SHRIMP

Introduction

The Aleutian shrimp district of Area J includes all waters west of the longitude of Cape Sarichef. The Aleutian District includes four separate sections: Unalaska Bay, Makushin Bay, Usof Bay, and Beaver Inlet.

Historic Background

Shrimp has been fished in the Aleutian District since 1972 (Table 1). Catch and effort increased in subsequent years to a peak of 6.8 million pounds in 1977/78 (Table 1). Since 1978 the Aleutian shrimp fishery has suffered sharp declines in catches and reduced seasons (Table 1).

1992 Fishery

Four vessels registered to fish shrimp in the Aleutian District in 1992. All were catcher processors that normally participate in the Bering Sea pollock fishery. The vessels were prospecting for an alternate fishery during the closed season for pollock. They made one trip, caught few shrimp, and quit (Table 1).

Stock Status

Though there have been no surveys in the Aleutian District since October 1983, shrimp stocks probably remain in a severely depleted condition.

Table 1. Historical trawl shrimp fishery statistics for the Aleutian District.

Season[a]	Opened	Closed	Vessels	Landings	Tows	Pounds	Average Price Per Lb.
1972	1/72	12/72	C O N F I D E N T I A L				
1973	1/73	12/73	C O N F I D E N T I A L				
1974	1/74	12/74	7	88	721	5,749,407	NR
1975	1/75	12/75	C O N F I D E N T I A L				
1976	1/76	12/76	8	66	689	3,670,609	$ .072
1977-78	2/77	3/78	7	93	1,372	6,800,393	$ .12
1978-79	4/78	3/79	7	74	1,007	4,946,350	$ .15
1979-80	4/79	2/80	7	68	799	3,292,049	$ .20
1980	3/80	12/80	4	60	711	2,454,829	$ .23
1981	3/81	12/81	6	45	551	2,185,326	$ .22
1982-83	5/82	6/83[b]	C O N F I D E N T I A L				
1983			N O F I S H I N G				
1984			N O F I S H I N G				
1985			N O F I S H I N G				
1986			N O F I S H I N G				
1987			N O F I S H I N G				
1988			N O F I S H I N G				
1989			N O F I S H I N G				
1990			N O F I S H I N G				
1991			N O F I S H I N G				
1992	1/92	12/92	4	6	94	72,133	NR

[a] Season years: 1972 to 1976 by calendar year. 1977/78 ran February 1977 to March 1978. 1978/79 and 1979/80 April to March. 1980/81 hence March to February.

[b] Catch occurred May and June 1982.

ALEUTIAN ISLANDS MISCELLANEOUS

Octopus

Six vessels registered to retain octopus as bycatch taken incidentally in directed pot fisheries for cod or crab in 1992, and one registered for a directed fishery. There were five reported landings, all by the same vessel. Catch data is confidential.

Snails

One vessel registered to fish snails in the Aleutian Islands in 1992. Catch data is confidential.

Urchins

One vessel registered to fish urchins in the Aleutian Islands in 1992. Catch data is confidential.

Hair Crab

Seven vessels registered to fish haircrab in the Aleutian Islands in 1992. Two vessels made landings, the catch data is confidential.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE WESTERN ALEUTIANS, 1992

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ADAK BROWN KING CRAB

Historic Background

The Adak brown king crab registration Area R has its eastern boundary at 171°W. Longitude, its western boundary at the U. S.-Russian Convention Line of 1867 and its northern boundary at 55°30' N. Lat. (Figure 1). The Adak brown king crab fishery began during the 1975/76 season when 25,000 pounds were caught. Occurring incidentally to the red king crab fishery, catches of brown crab were low during the 1975/76 to 1980/81 seasons (Table 1).

Fishermen began to target on brown king crab for the first time during the 1981/82 season when 14 vessels made 76 landings totaling 1.2 million pounds (Table 1). When the fishery first began, most of the catch came from the North Amlia and Petrel Bank Districts, and lately the Western Aleutian District has become a significant producer as well. Lacking the large inter-island passes where brown king crab are most numerous, the other three districts in Area R produce much lower catches. In July 1985, the size limit was reduced from 6.5 to 6.0 inches.

1991/92 Fishery

The brown king crab fishery opened on November 1, concurrent to the red king crab and Tanner crab fisheries in the area and the Bristol Bay red king crab season. A total of four catcher processors and two catcher boats were registered 48 hours prior to the opening. After the closure of the Bristol Bay season, four additional vessels registered for the fishery staying in the area until mid-December.

As in the 1990/91 season, effort levels remained constant from November through April, but after the closure of the Bering Sea *C. opilio* fishery, effort increased as Tanner crab vessels entered the fishery, (Table 4). With the increase in effort, catch also increased and 3.4 million pounds, half of the season's total, was caught in three and a half months.

A total of 6.2 million pounds of brown king crab was harvested by 16 vessels during the 9½ month season, (Tables 1 and 4). The average weight and size of the crab did not show much change from the 1990/91 season, (Table 2). Although fishery effort occurred throughout the entire registration area, the major catches still occur in the Seguam Pass and Semisopochnoi Island areas. The fishery was valued at over $15.2 million.

Stock Status

The Adak brown king crab stocks are not surveyed and no population estimates are available. The fishery continues based on historical catch information and weekly observer reports.

Table 1. Historic brown king crab catch in Adak, Area R.

Season	Vessels	Landings	No. Crab[a]	No. Pounds[a]	Pots Lifted	Average Weight	CPUE	Deadloss
1975/76			C O N F I D E N T I A L					
1976/77			C O N F I D E N T I A L					
1977/78			C O N F I D E N T I A L					
1978/79			C O N F I D E N T I A L					
1979/80			C O N F I D E N T I A L					
1980/81	4	4	11,523	58,914	700	5.1	17	5,000
1981/82	14	76	217,700	1,194,046	24,627	5.5	9	22,064
1982/83	99	501	1,509,001	8,006,274	150,103	5.3	10	220,743
1983/84	157	1,002	1,534,909	8,128,029	226,798	5.3	7	171,021
1984/85	38	85	643,597	3,180,095	64,777	4.9	10	125,073
1985/86[b]	49	386	2,052,048	11,124,759	202,401	4.5	12	5,304
1986/87	62	525	2,923,947	12,798,004	392,185	4.4	7	276,736
1987/88	46	386	1,908,989	8,001,177	267,705	4.2	7	165,415
1988/89	74	455	2,165,508	9,080,196	280,732	4.2	8	122,251
1989/90	64	505	2,520,786	10,162,400	324,153	4.0	8	100,724
1990/91[c]	13	167	1,312,116	5,250,687	160,960	4.0	8	176,583
1991/92	16	206	1,511,751	6,254,409	192,949	4.1	8	96,848

[a] Deadloss included
[b] Size limit reduced to six inches
[c] Partical closure August 7

Table 2. Adak brown king crab harvest composition of fishing seasons.

Season	-----Season----- Opened	Closed	No. Pounds[a]	Percent New Shell	Avg. Length	Min. Size
1975/76	11/01	12/18	25,490	NA	NA	6.5"
1976/77	01/07	04/15	2,285	NA	NA	6.5"
1977/78	02/20	03/20	47,445	NA	NA	6.5"
1978/79	02/21	10/01	0			6.5"
1979/80	01/15	04/01	23,485	NA	NA	6.5"
1980/81	01/15	03/28	58,914	97.6	158.4	6.5"
1981/82	11/01	06/15	1,194,046	90.5	159.6	6.5"
1982/83	11/01	04/15	8,006,274	92.4	158.2	6.5"
1983/84	11/10	04/15	8,128,029	87.8	NA	6.5"
1984/85	11/10	07/08	3,180,095	87.5	156.7	6.5"
1985/86[b]	11/01	08/15	11,124,759	86.3	151.3	6.0"
1986/87	11/01	08/15	12,798,004	69.1	149.5	6.0"
1987/88	11/01	08/15	8,001,177	91.7	146.9	6.0"
1988/89	11/01	08/15	9,080,196	91.2	149.1	6.0"
1989/90	11/01	08/15	10,162,400	95.3	148.5	6.0"
1990/91[c]	11/01	08/15	5,250,687	91.5	144.5	6.0"
1991/92	11/01	08/15	6,254,409	94.4	144.7	6.0"

[a] Deadloss included
[b] Size limit reduced to six inches
[c] Partial closure August 7

Table 3. Historic Adak brown king crab economic performance.

Year	GHL[a]	Season Total[b]	No. Pots Registered[c]	No. Vssls.	No. Lndgs.	No. Pots Pulled	Ex-Vssl Value	Total Value[d]	Season Length (Days)	Season Length Dates
1980/81	N/A	0.05	581	4	4	700	$ .90	$ 0.05	(438)	01/15-3/28
1981/82	N/A	1.2	2,647	14	76	24,627	$ 2.06	$ 2.5	(227)	11/01-6/15
1982/83	N/A	7.8	13,111	99	501	150,103	$ 3.01	$23.5	(166)	11/01-4/15
1983/84	N/A	8.0	17,406	157	1,002	226,798	$ 2.92	$23.4	(157)	11/10-4/15
1984/85	N/A	3.1	5,270	38	85	64,777	$ 2.00	$ 6.2	(240)	11/10-7/08
1985/86	N/A	11.1	7,057	49	386	202,401	$ 2.50	$27.8	(288)	11/01-8/15
1986/87	N/A	12.5	12,958	62	325	392,185	$ 3.00	$37.5	(288)	11/01-8/15
1987/88	N/A	7.8	10,687	46	386	267,705	$ 3.00	$23.4	(289)	11/01-8/15
1988/89	N/A	9.0	23,627	74	455	280,732	$ 3.20	$28.8	(288)	11/01-8/15
1989/90	N/A	10.1	14,724	64	505	324,153	$ 3.00	$30.3	(288)	11/01-8/15
1990/91	N/A	5.3	7,380	13	167	160,960	$ 3.00	$15.9	(288)	11/01-8/15
1991/92	N/A	6.1	7,635[e]	16	206	192,949	$ 2.50	$15.2	(289)	11/01-8/15

[a] No preseason GHL's
[b] Millions of pounds
[c] No separate registration from red king crab
[d] Millions of dollars
[e] Gear of vessels landing brown king crab

Table 4. 1991/92 Adak, Area R, brown king crab catch statistics by month.

Mo.	No. Vssls	No. Lndgs	No. Crab[a]	No. Lbs.[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
Nov	5	10	109,394	453,548	6,963	4.1	16	5,500
Dec	7	18	114,315	468,277	14,217	4.1	8	5,200
Jan	5	10	96,881	361,382	8,516	3.7	11	11,000
Feb	5	14	116,285	465,891	11,831	4.0	10	9,648
Mar	4	11	125,451	492,640	12,125	3.9	10	17,000
Apr	6	16	116,239	500,710	12,756	4.3	9	12,000
May	12	32	287,917	1,214,319	31,931	4.2	9	16,000
Jun	14	36	226,455	948,122	35,858	4.1	6	5,200
Jul	14	35	204,842	874,122	35,071	4.7	6	11,300
Aug	12	26	113,972	475,398	23,681	4.2	4	4,000
Total	16	206	1,511,751	6,254,409	192,949	4.1	9	96,848

[a] Deadloss included

Table 5. 1991/92 Adak brown king crab catch by statistical area.

Stat. Area	No. Lndgs.	No. Crab[a]	No. Lbs.[a]	Pots Lifted	Avg. Wt.	CPUE	Dead-loss #
705200	6	16,873	67,873	1,335	4.0	13	0
715201	12	44,547	172,349	5,003	3.8	9	9,462
715202	42	252,051	1,032,745	27,240	4.1	9	29,412
715231	36	187,770	740,135	17,793	3.9	11	20,312
715232	12	46,109	178,316	5,283	3.8	9	9,462
725201	12	80,638	345,845	10,113	4.2	8	10,500
725230	6	14,070	57,258	3,779	4.1	4	0
735201	6	20,378	94,022	4,216	4.6	5	1,000
735230	8	18,465	100,037	6,060	5.4	3	5,000
745131	8	12,360	58,438	2,442	4.7	5	1,000
755132	7	2,880	12,703	1,516	4.4	2	0
755201	8	5,873	26,872	815	4.5	7	0
765137	4	6,638	30,304	616	4.5	11	0
735203	8	7,475	33,531	901	4.4	8	0
775131	6	3,699	14,690	598	3.9	6	0
775135	6	17,862	73,996	1,723	4.1	10	0
775136	5	8,234	36,279	712	4.4	12	0
785102	15	15,760	64,139	2,254	4.0	7	0
785131	19	21,860	91,288	3,290	4.1	7	0
795102	17	13,500	57,051	1,817	4.2	7	0
795131	9	28,372	114,834	3,852	4.0	7	0
795132	32	58,606	239,493	5,612	4.0	10	0
795200	19	18,021	77,629	2,550	4.3	7	0
795230	6	12,960	46,383	1,972	3.5	7	0
805103	28	44,034	186,029	4,721	4.2	9	0
805132	42	118,395	505,272	12,745	4.2	9	0
805201	26	25,170	109,749	3,126	4.3	8	0
815100	13	12,986	59,719	2,980	4.6	4	0
815131	23	31,773	133,127	4,041	4.1	8	0
825132	9	7,676	35,107	1,245	4.5	6	0
825201	13	18,555	80,036	1,953	4.3	10	0
835130	15	17,014	72,614	2,918	4.2	6	0
835200	16	28,716	118,244	3,867	4.1	7	0
845130	15	20,587	81,666	2,306	3.9	6	0
845202	20	76,166	305,927	6,665	4.2	11	0
855200	14	24,260	99,439	5,057	4.1	5	1,200
855231	13	22,030	86,089	1,924	3.9	6	0
Other	64	125,739	518,833	26,909	4.1	7	9,500
Total	206[b]	1,511,751	6,254,409	192,949	4.2	8	96,848

[a] Deadloss included
[b] Actual landings

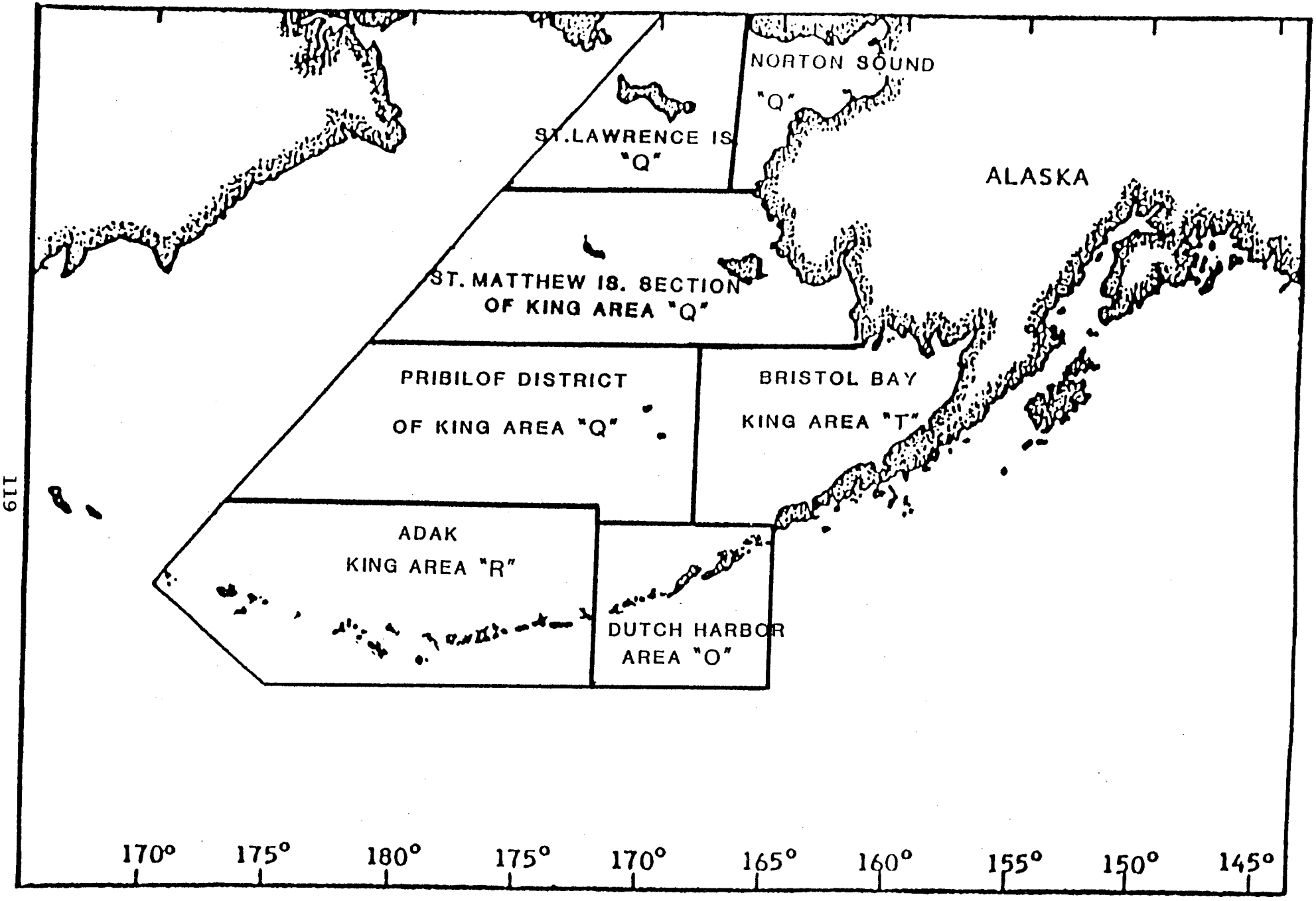

Figure 1. Adak brown king crab statistical area 'R'.

ADAK RED KING CRAB

Introduction

Adak, Area R, is comprised of all continental shelf waters west of 171° W. longitude and east of the U.S.-Russian convention line of 1867 (Figure 1).

Historic Background

The Adak red king crab fishery began in 1961 when four vessels harvested two million pounds. As the fleet exploited the virgin populations, catches increased rapidly to a peak of 21 million pounds by the 1964/65 season (Table 1). For a short time the expanding Dutch Harbor king crab fishery diverted effort, and Area R catches dropped to 6 million pounds by the 1966/67 season.

From 1967/68 to the 1972/73 seasons, catches were relatively stable at 14 million to 19 million pounds (Table 1). The large catches were maintained by several years of strong recruitment and by the exploitation of populations discovered east of Adak Island. In addition to the eastward exploration, some vessels moved into the waters of the Petrel Banks, Amchitka Islands and other westward islands creating the separate Western Aleutians, Area S, fishery in 1967/68. The catch in Area S was not large, and in 1978 management was simplified by eliminating Area S to form the Petrel Bank and Western Aleutian Districts of Area R.

After the 1972/73 season, the harvest declined so sharply that the Alaska Board of Fisheries did not open the 1976/77 season. Catches made since 1976/77 have been extremely low compared to those of previous seasons, and any indications of recovery have been slight (Table 1). ADF&G surveys conducted in 1975, 1976, and 1977 concluded that several years of poor recruitment were the cause of the decline. A shell disease and an unusually high natural mortality in the North Amlia District was also blamed for the decreased populations.

In recent years, fleet effort increased because of high prices paid for red king crab and the growth of the Adak brown king crab fishery (Table 1). With the increased effort on brown king crab stocks, fewer vessels are concentrating on the less abundant red king crab. With the implementation of longlining pots for brown king crab and not for red king crab, gear type has separated effort for both species. In the past, before longlining, vessels fished for both species with the same gear but on different grounds.

1991/92 Fishery

The red king crab fishery opened November 1, concurrent to the brown king and *C. bairdi* Tanner crab fisheries in the same registration area. The Bristol Bay red king crab season also opens on November 1, and most fishing effort was directed to this fishery.

Small directed effort occurred in November with five vessels landing over 626,000 pounds for the month, (Table 4). Most of this effort occurred during the Bristol Bay season. After the opening of the *C. bairdi* fishery and the end of the strike, directed red king crab fishing effort in the area declined. Additional vessels did fish for a few weeks during December, more as a protest to the low *C. bairdi* price offered for the Bering Sea, but landed only 217,000 pounds, (Table 6).

The season total was 951,000 pounds, comparable to the previous three seasons, (Table 1). Because of the small expected harvest in the Bristol Bay king crab fishery, more effort could be expected on the Adak red king crab stocks. The fishery was valued at over $2.9 million (Table 3).

Stock Status

The Adak king crab stocks are not surveyed, however the state's mandatory observer program has had 100 percent coverage on these grounds since 1988. Much needed biological information is being obtained in the form of bycatch sampling on catcher processors and is being analyzed by Department staff. Compared to historic levels, the population is depressed, and most of the catch is from one area.

Table 1. Adak, Area R, historic red king crab catch[a].

Season	No. Vssls	No. Lndgs	No. Crab[b]	No. Lbs.[b]	Lifted	CPUE	Avg. Wt.	Recruits	Lngth	Dead-loss
1960/61	4	41	NA	2,074,000	NA	9	NA	NA	NA	NA
1961/62	8	218	NA	6,114,000	NA	NA	NA	NA	NA	NA
1962/63	9	248	NA	8,006,000	NA	NA	NA	NA	NA	NA
1963/64	11	527	NA	17,904,000	NA	NA	NA	NA	NA	NA
1964/65	18	442	NA	21,193,000	NA	NA	NA	NA	NA	NA
1965/66	10	431	NA	12,915,000	NA	NA	NA	NA	NA	NA
1966/67	10	90	NA	5,883,000	NA	NA	NA	NA	NA	NA
1967/68[c]	22	505	NA	14,131,000	NA	NA	NA	NA	NA	NA
1968/69	30		NA	16,100,000	NA	NA	NA	NA	NA	NA
1969/70	33	435	NA	18,016,000	115,929	NA	6.5	NA	NA	NA
1970/71	35	378	NA	16,057,000	124,235	NA	NA	NA	NA	NA
1971/72	40	166	NA	15,475,924	46,011	NA	NA	NA	NA	NA
1972/73[d]	43	313	3,461,025	18,724,144	81,133	43	5.4	50.9	NA	NA
1973/74	41	239	1,844,974	9,741,464	70,059	26	5.3	48.5	148.6	NA
1974/75	36	97	532,298	2,774,963	32,620	16	5.2	48.6	148.6	NA
1975/76	20	25	79,977	411,583	8,331	10	5.2	67.5	147.2	NA
1976/77				C l o s e d						
1977/78	12	18	160,343	905,527	7,269	22	5.7	43.9	152.2	NA
1978/79[e]	13	27	149,491	807,195	13,948	11	5.4	56.7	NA	1,170
1979/80	18	23	82,250	467,229	9,757	8	5.7	42.8	152.0	24,850
1980/81	17	52	254,390	1,419,513	20,914	12	5.6	65.2	149.0	54,360
1981/82	46	106	291,311	1,648,926	40,697	7	5.7	55.5	148.3	8,759
1982/83	72	191	284,787	1,701,818	66,893	4	6.0	49.9	150.8	7,855

-Continued-

Table 1. (page 2 of 2)

Season	No. Vssls	No. Lndgs	No. Crab[b]	No. Lbs.[b]	Lifted	CPUE	Avg. Wt.	Recruits	Lngth	Dead-loss
1983/84	106	248	298,948	1,981,579	60,840	5	6.6	30.4	157.3	3,833
1984/85	64	113	206,751	1,367,672	50,685	4	6.6	31.4	155.1	0
1985/86	35	89	162,271	906,293	32,478	5	5.6	40.0	152.2	6,120
1986/87	33	69	126,146	712,243	29,189	4	5.6	NA	NA	500
1987/88	71	109	211,712	1,213,933	43,433	5	5.7	65.3	148.5	6,900
1988/89	73	156	266,053	1,567,314	64,374	4	5.9	39.0	153.1	557
1989/90	56	123	196,070	1,118,566	54,513	4	5.7	NA	NA	759
1990/91	7	34	146,903	828,105	10,674	14	5.6	NA	NA	0
1991/92	10	35	165,356	951,278	16,636	10	5.7	NA	NA	0

[a] Includes catch from former Area S now Western Aleutians District R.
[b] Includes deadloss.
[c] Area S fishery began.
[d] Area S continued until June.
[e] Area S eliminated - added to Area R.

Table 2. Adak Area R red king crab harvest composition by fishing season.[a]

Season	Season Opened	Season Closed	No. Pounds[b]	Size Limit	Price Per Lb.
1960/61	01/01	12/31	2,074,000	-	N/A
1961/62	01/01	12/31	6,114,000	-	N/A
1962/63	01/01	12/31	8,006,000	-	N/A
1963/64	01/01	12/31	17,904,000	-	N/A
1964/65	01/01	12/31	21,193,000	-	N/A
1965/66	01/01	12/31	12,915,000	6.5"	N/A
1966/67	01/01	12/31	5,883,000	6.5"	N/A
1967/68[c]	01/01	12/31	14,131,000	6.5"	N/A
1968/69		03/15	16,100,000	7.0"	N/A
1969/70	09/15	01/15	18,016,000	7.0"	N/A
1970/71	11/01	03/31	6,057,000	7.0"	N/A
1971/72	11/01	12/16	15,475,924	6.5"	N/A
1972/73[d]	11/01	02/17	18,724,144	6.5"	N/A
1973/74	11/01	02/26	9,741,464	6.5"	N/A
1974/75	01/10	03/05	2,774,963	6.5"	.35
1975/76	11/01	12/18	411,583	6.5"	.38
1976/77	----------	CLOSED	----------		
1977/78	02/20	03/20	905,527	6.5"	1.36
1978/79[e]	02/21	03/29	807,195	6.5"	1.23
1979/80	01/15	04/01	467,229	6.5"	.68
1980/81	01/15	03/28	1,419,513	6.5"	.92
1981/82	11/01	02/15	1,648,926	6.5"	2.01
1982/83	11/01	01/15	1,701,818	6.5"	3.44
1983/84	11/10	12/16	1,981,579	6.5"	3.43
1984/85	11/10	02/15	1,367,672	6.5"	2.10
1985/86	11/01	02/15	906,293	6.5"	2.15
1986/87	11/01	02/15	712,243	6.5"	3.85
1987/88	11/01	02/15	1,213,933	6.5"	4.00
1988/89	11/01	12/04	1,567,314	6.5"	5.00
1989/90	11/01	02/15	1,118,566	6.5"	4.20
1990/91	11/01	02/15	828,105	6.5"	4.00
1991/92	11/01	02/15	951,278	6.5"	3.00

[a] Includes catch from former Area S now Western Aleutians District Area R.
[b] Includes deadloss.
[c] Area S fishery began.
[d] Area S continued until June.
[e] Area S eliminated - added to Area R.

Table 3. Historic Adak red king crab economic performance.

Year	GHL[a]	Season Total[b]	Number Pots Registered	Number Vessels	Number Landings	Pots Pulled	Ex-Vessel Value	Total Value[c]	Season Length (Days)	Season Length Dates
1980/81	N/A	1.4	2,471	17	52	20,914	$ .92	$ 1.3	(438)	01/15-03/28
1981/82	N/A	1.6	8,698	46	106	40,697	$ 2.01	$ 3.2	(107)	11/01-02/15
1982/83	N/A	1.7	13,111	72	191	66,893	$ 3.44	$ 5.9	(76)	11/01-01/15
1983/84	N/A	2.0	19,407	106	248	60,840	$ 3.43	$ 6.9	(36)	11/10-12/16
1984/85	N/A	1.4	8,876	64	113	50,685	$ 2.10	$ 2.9	(97)	11/10-02/15
1985/86	N/A	.9	8,274	35	89	32,478	$ 2.15	$ 1.9	(107)	11/01-02/15
1986/87	N/A	.7	12,958	33	69	29,189	$ 3.85	$ 2.7	(107)	11/01-02/15
1987/88	N/A	1.2	17,720	71	109	43,433	$ 4.00	$ 4.8	(107)	11/01-02/15
1988/89	N/A	1.6	23,927	73	156	64,374	$ 5.00	$ 8.0	(34)	11/01-12/04
1989/90	N/A	1.1	19,363	56	123	54,513	$ 4.20	$ 4.6	(107)	11/01-02/15
1990/91	N/A	.7	8,500	7	34	10,674	$ 4.00	$ 2.8	(107)	11/01-02/15
1991/92	N/A	.9	2,305	10	35	16,636	$ 3.00	$ 2.9	(107)	11/01-02/15

[a] No preseason GHL's
[b] Millions of pounds
[c] Millions of dollars

Table 4. 1991/92 Adak, Area R, red king crab catch statistics by month.

Month	No. Vssls	No. Lndgs	No. Crab[a]	No. Lbs[a]	Pots Lifted	Avg. Wt.	CPUE	Dead-loss Lbs
Nov	5	13	107,908	626,626	7,440	5.8	14	0
Dec	7	14	37,343	217,589	5,267	5.8	7	0
Jan[b]	4	8	20,105	107,063	3,929	5.3	5	0
Total	10	35	165,356	951,278	16,636	5.7	10	0

[a] Deadloss included.
[b] January and February combined.

Table 5. 1991/92 Adak red king crab catch by statistical area.

Stat Area	No. Lndgs	No. Crab[a]	No. Lbs[a]	Lifted	Avg. Wt.	CPUE	Dead-loss Lbs.
795200	21	43,259	249,658	3,743	5.8	11	0
805201	7	113,273	650,752	11,144	5.7	10	0
Other	7	8,824	50,868	1,749	5.8	5	0
Total	35[b]	165,356	951,278	16,636	5.7	10	0

[a] Deadloss included.
[b] Actual landings.

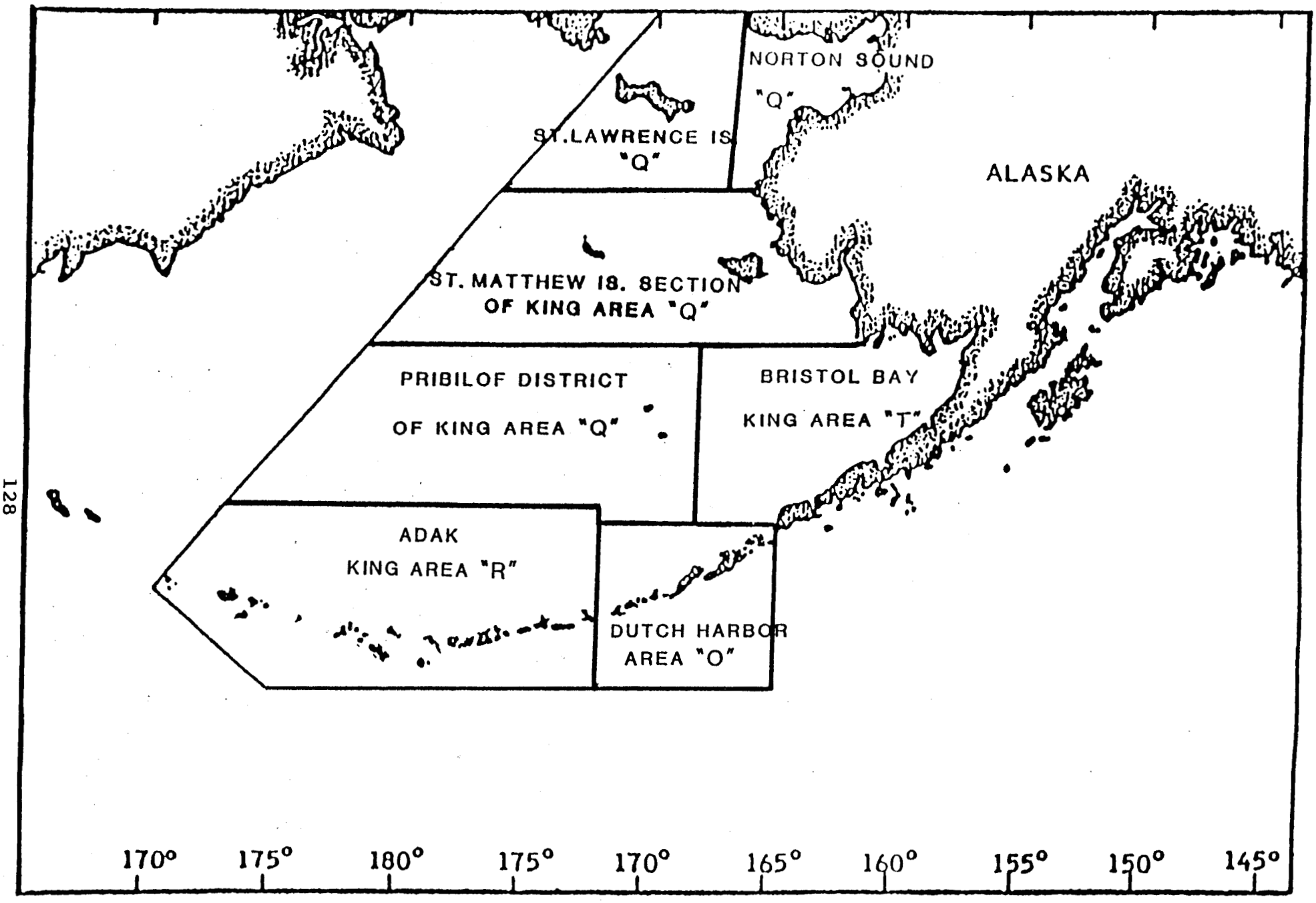

Figure 1. Adak red king crab statistical area 'R'.

WESTERN ALEUTIAN TANNER CRAB

Introduction

The Western Aleutian District of Statistical Area J includes all water west of 172° long. and south of 54° 36' lat.

Historic Background

Tanner crab (*Chionoecetes bairdi*) from the Western Aleutians have generally been harvested incidentally in the red king crab fishery. Over the past ten years, the fishery has averaged over 247,000 pounds and ranged from a low of 14,779 pounds during the 1990/91 season to a high of over 838,600 pounds in the 1981/82 fishery (Table 1).

During the current fishery the CPUE has been stable, at about four crabs per pot lift following high CPUE's of 20-30 crabs per pot during the early years of the fishery.

1991/92 Fishery

The fishery opened concurrent to the Adak red and brown king crab fisheries on November 1 with two boats registering to fish Tanner crab. Registrations increased to eight in mid November as vessels moved into the Adak fishery in order to keep fishing during a strike by the Bering Sea Tanner crab fleet. The strike was short and most of the boats moved back into the Bering Sea fishery. Four vessels made landings of 7,825 pounds during the season, the lowest in over 12 years (Table 1).

Small boats at the Adak Naval Air Station again fished and landed crab locally, selling to the Naval facilities and private individuals at the docks.

1992/93 Fishery

The fishery opened concurrent to the Adak red and brown king crab fisheries. Three boats registered to fish Tanner crab. No catch information is available at this time.

Table 1. Historic Tanner crab fishery statistics from the Western Aleutians District.

Year	Opened	Closed	Vssls	Lndgs	No. Crab[a]	No. Lbs.[a]	Pots Lifted	Avg. Wt.	CPUE	Min. Size	Price Pound
1973/74	11/01	10/15	7	12	31,079	71,887	2,390	2.3	13	-	N/A
1974/75	11/01	10/15			C o n f i d e n t i a l						
1975/76	11/01	10/15			C o n f i d e n t i a l						
1976/77	11/01	10/15			----- N o F i s h i n g ---						
1977/78	11/01	06/15	6	7	103,190	237,512	2,700	2.3	38	5.5"	$ .38
1978/79	11/01	06/15	6	9	84,129	197,244	4,730	2.3	18	5.5"	$ .53
1979/80	11/01	06/15	10	12	147,843	337,297	5,952	2.3	25	5.5"	$ .52
1980/81	01/15	06/15	9	23	95,102	220,716	7,327	2.3	13	5.5"	$ .54
1981/82	01/15	06/15	17	43	364,164	838,697	21,910	2.3	17	5.5"	$1.30
1982/83	11/01	06/15	61	125	225,491	488,399	40,450	2.2	6	5.5"	$1.27
1983/84	11/10	06/15	31	86	171,576	384,146	20,739	2.2	8	5.5"	$ .95
1984/85	11/10	06/15	31	41	75,009	163,460	13,416	2.2	6	5.5"	$1.30
1985/86	11/01	06/15	15	30	98,089	206,814	7,999	2.1	12	5.5"	$1.40
1986/87	11/01	06/15	8	24	19,874	42,761	10,878	2.1	2	5.5"	$1.50
1987/88	11/01	04/20	15	37	63,545	141,390	7,453	2.2	8	5.5"	$2.10
1988/89	11/01	05/07	36	77	69,280	148,997	18,906	2.1	4	5.5"	$1.00
1989/90	11/01	04/09	12	30	22,937	48,746	6,204	2.1	4	5.5"	$1.00
1990/91	11/01	03/25	5	21	6,901	14,779	1,309	2.1	5	5.5"	$1.25
1991/92	11/01	03/31	8	8	3,483	7,825	986	2.2	4	5.5"	$1.00
1992/93[b]	11/01										

[1] Deadloss included.
[2] Fishery in progress.

ANNUAL MANAGEMENT REPORT FOR THE

SHELLFISH FISHERIES OF THE BERING SEA AREA, 1992

By

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BERING SEA DISTRICT TANNER CRAB

Introduction

The Bering Sea District of Statistical Area 'J' includes all waters of the Bering Sea north of the latitude of Cape Sarichef and east of the U.S.-Russian convention line of 1867. This district has two subdistricts: the Western and Eastern which include the Norton Sound Section and the General Section (Figure 1). Two Tanner crab species, *Chionoecetes bairdi* and *Chionoecetes opilio* or snow crab, are commercially harvested in the Bering Sea District.

Historic Background

The first reported Tanner crab catches were made in 1968 incidental to the king crab fishery. In 1974 a directed Tanner crab fishery began with the target species, *C. bairdi*. In the 1977/78 season, an incidental catch of *C. opilio* was reported. During the fall Board of Fisheries meeting in 1978, the National Marine Fisheries Service (NMFS) reported that as much as a 50% decline in *C. bairdi* stocks could be expected during the 1978/79 fishing season, and the decline would continue for several years. As predicted, the *C. bairdi* stocks showed a sharp decline. Catches decreased from 29.7 million pounds, during the 1981 fishery, to 5.3 million pounds, for the 1983 fishery, to a total closure of the *C. bairdi* fishery in 1986 (Table 1). As the catches have declined in the *C. bairdi* fishery, effort has increased in the *C. opilio* fishery (Table 7).

Although prices have remained high for *C. bairdi*, fishing effort has decreased as the stock abundance decreased. With the decline in the *C. bairdi* stocks which were primarily harvested from the Southeastern Subdistrict (now the Eastern Subdistrict), industry has turned to the smaller and more abundant, but less valuable, *C. opilio* stocks to fill demands for Tanner crab. Historic *C. bairdi* catch by subdistrict and season is depicted on Table 3.

1991/92 C. bairdi Fishery

The 1991 *C. bairdi* fishery opened at 12:00 noon, November 15, with a 32.8 million pound harvest guideline, seven days after the closure of the Bristol Bay red king crab season. In the interim, the fleet was allowed to leave their king crab gear, over 90,000 pots, on the fishing grounds east of 166° W. long.

Registrations and tank inspections began on November 14 at Dutch Harbor, Akutan, King Cove and St. Paul, but because of a strike called by the Alaska Marketing Association, many vessels and catcher processors initially refused inspection as a solidarity gesture. However, when the fleet was informed that inspections would not be conducted over the weekend, almost all 280 vessels received their inspection by close of business the next day.

During the same time period, the Alaska Marketing Association, some processors and a group of fishermen petitioned the Board of Fisheries to close the *C. bairdi* season until January 15,

1992, the scheduled opening for *C. opilio*. Although the petition to reconsider the opening was denied, the Department elected to open, by emergency order, the entire Eastern Subdistrict to *C. bairdi* to alleviate industry concerns regarding additional fishing pressure on the confined *C. bairdi* grounds east of 166° W. long.

On January 7, 1992 the Board of Fisheries adopted an Emergency Regulation changing the legal definitions of *C. bairdi* and *C. opilio* Tanner crab. The Emergency Regulation defined only red eyed and non-red eyed crabs and their legal size limits, 5.5 and 3.1 inches in carapace width, respectively. This action was prompted by the courts dismissing many small *C. bairdi* crab cases during October 1991 due to the lack of positive identification of the sublegal crab as *C. bairdi*.

After the opening of the *C. opilio* fishery on January 15, industry started complaining to the department about using only eye color for identification. Due to difficulties in determining eye color under ranging light conditions, it became apparent that using eye color as the single criteria was not sufficient to distinguish undersized *C. Bairdi* and Tanner crab hybrids. The new regulation stated that in addition to eye color, the shape of Tanner crab mouth parts had been shown to be an effective characteristic to distinguish *C. bairdi* from *C. opilio* and hybrid Tanner crab, and when a combination of eye color and mouth part shape are used, the ability to distinguish *C. bairdi* is greatly improved and is not dependent on lighting conditions. On January 24, 1992, another emergency regulation was issued modifying the January 7 emergency regulation to include eye color and mouth part shape.

Over 22 million pounds (70%), of the season's 31.8 million pounds was harvested during December (Table 5). Effort declined somewhat during the holiday season and started again after the first of the year. As in the past, directed *C. bairdi* effort north of the Alaska Peninsula dropped off with the opening of the *C. opilio* fishery on January 15. Small landings of *C. bairdi* continued until the regulatory closure on March 31. A total of 31.8 million pounds was harvested for the 1991/92 season, nine million pounds less than the 1990/91 season, bringing the value of the fishery to over $47 million (Tables 1 and 3).

C. bairdi Stock Status

The 1992 National Marine Fisheries Service (NMFS) survey indicates a small increase in the total number of legal male *C. bairdi* Tanner crabs. Prerecruits remain stable, but NMFS predicts a decline in these stocks when strong year classes presently moving into the fishery decline.

1992 C. opilio Fishery

The *C. opilio* fishery opened at 12:00 noon on January 15, 1992 with a preseason harvest guideline of 400 million pounds; 351.1 million from the Eastern Subdistrict and 48.9 million from the Western Subdistrict. The 1992 harvest guideline was over 71 million pounds larger than the previous season harvest of 328.6 million pounds, (Table 7). As in past seasons, the preseason harvest guideline was set on crab 4 inches and greater in carapace width, the size presently acceptable to industry.

However, the initial 400 million pound harvest guideline was adjusted downward to 333 million pounds to comply with the 333 million pound GHL cap as specified by the FMP. The Crab Plan Team is presently in the process of making recommendations to the North Pacific Fisheries Management Council, to adjust the 333 million pound cap so that future GHL's will not be artificially restricted. When the harvest guideline was adjusted, the Eastern and Western Subdistricts harvest guidelines were decreased proportionally to 292.3 and 40.7 million pounds, respectively.

Due to the large concentrations of crab in the Eastern Subdistrict, and early ice conditions in the waters west of 173° W. longitude, very few vessels fished the Western Subdistrict which produced a total catch of only 12.9 million pounds of the 315.3 million season total.

With the large effort in the fishery and the high volume of crab being harvested, it became apparent by late February that the fleet could expect a very short season. The ice edge had already covered most of the more productive fishing grounds in the Western Subdistrict and had forced the fleet fishing north of the Pribilof Islands off those grounds. With a large abundance of crab still on the grounds and the average catch per pot remaining high, the Department opted to allow the entire 333 million pound harvest to come from areas presently open to the fleet. This included most all of the highly productive grounds in the Eastern Subdistrict and some of the lower grounds west of 173° W. long. and south of approximately 59° N. lat. By allowing the harvest to continue in the Eastern Subdistrict, the fleet was able to continue fishing until the closure of the entire Bering Sea on April 22, four to six weeks earlier than any previous season (Table 8).

With the large fishing effort and high catches, processing capacity reached a weekly record of 31.6 million pounds during February and until ice forced the fleet to move gear in mid-March, averaged 29.2 million pounds per week for a seven week period.

A total of 250 vessels landed 315.3 million pounds of *C. opilio* during the 14 week season valued at over $156.5 million (Table 9). This is the earliest closure of *C. opilio* fishery to date (Table 7).

C. opilio Stock Status

According to the 1992 NMFS survey, large males, (4 inches or larger in carapace width) showed a 47 percent decrease. In addition, prerecruits showed a 52 percent decrease. The total population remains high, but additional declines in the harvest can be expected to occur in the near future. In 3 - 5 years, the harvest may again increase as strong year classes mature and enter the fishery.

Table 1. Historic Bering Sea *C. bairdi* catch statistics by season.

Year	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Avg. Width (mm)	% New Shell	Pounds Deadloss
1968	NA	7	6,400	17,900	1,400	5	2.8	-	-	NA
1969	NA	131	353,300	1,008,900	29,800	12	2.9	-	-	NA
1970	NA	66	482,300	1,014,700	16,400	29	2.1	-	-	NA
1971	NA	22	61,300	166,100	7,300	8	2.7	-	-	NA
1972	NA	14	42,061	107,761	4,260	10	2.6	-	-	NA
1973	NA	44	93,595	231,668	15,730	6	2.5	-	-	NA
1974	NA	69	2,531,825	5,044,197	22,014	115	2.0	-	-	NA
1975	28	80	2,773,770	7,284,378	38,462	72	2.5	-	-	NA
1976	66	305	8,949,886	22,341,475	141,179	63	2.5	-	-	NA
1976/77	83	541	20,251,508	51,455,221	297,171	68	2.5	-	-	NA
1977/78	120	861	26,350,688	66,648,954	516,350	51	2.5	152.8	88.0	218,099
1978/79	144	817	16,726,518	42,547,174	402,697	42	2.5	152.7	95.0	76,000
1979/80	152	804	14,685,611	36,614,315	488,434	30	2.5	151.4	90.0	56,446
1981	165	761	11,887,213	29,732,086	559,626	21	2.5	149.4	86.6	101,594
1982	125	791	4,830,980	11,008,779	490,099	10	2.3	148.8	85.4	138,159
1983	108	448	2,286,756	5,273,881	282,006	8	2.3	148.8	70.5	60,029
1984	41	134	516,877	1,208,223	61,357	8	2.3	146.5	40.0	5,025
1985	44	166	1,283,474	3,151,498	104,707	12	2.4	150.0	65.0	14,096
1986	S E A S O N C L O S E D									
1987	S E A S O N C L O S E D									
1988	98	248	987,059	2,210,394	112,334	8	2.5	143.5	70.2	10,724
1989	109	359	2,907,021	7,012,965	184,892	16	2.4	149.4	80.8	34,664
1990	179	1,032	10,717,924	24,549,299	711,137	15	2.3	148.1	96.5	87,475
1990/91	255	1,756	16,608,625	40,081,555	883,391	19	2.4	149.7	95.3	210,769
1991/92	285	2,339	12,924,034	31,796,381	1,244,633	10	2.5	150.4	93.2	279,741

[a] Deadloss included.

Table 2. Historic Bering Sea *C. bairdi* seasons.

Season	Opened	Closed	Vessels	Pounds[a]	Avg. Wt.	CPUE[b]	Price Pound
1968[c]			NA	17.9	2.8	5	NA
1969[c]			NA	1,008.9	2.9	12	NA
1970[c]			NA	1,410.7	2.1	29	NA
1971[c]			NA	166.1	2.7	8	NA
1972[c]			NA	108.8	2.6	10	NA
1973[c]			NA	231.7	2.5	6	NA
1974[c]			NA	5,044.2	2.0	115	NA
1974/75	7-29	6-15	28	7,284.4	2.5	72	$ 0.20
1975/76	8-1	7-15	66	22,341.5	2.5	63	$ 0.19
1976/77	8-1	7-7	83	51,455.2	2.5	68	$ 0.30
1977/78	9-15	6-15	120	66,649.0	2.5	51	$ 0.38
1978/79	11-1	5-24	144	42,547.2	2.5	42	$ 0.52
1979/80	11-1	5-11	157	36,614.3	2.5	30	$ 0.52
1981	1-15	4-15	165	29,732.1	2.5	21	$ 0.58
1982	2-15	6-15	125	11,008.8	2.3	10	$ 1.06
1983[d]	2-15	5-22 6-15	108	5,273.9	2.3	8	$ 1.20
1984	2-15	6-15	41	1,208.2	2.3	8	$ 0.95
1985	1-15	6-15	44	3,151.5	2.4	12	$ 1.40
1986		S E A S O N	C L O S E D				
1987		S E A S O N	C L O S E D				
1988	1-15	4-20	98	2,210.4	2.5	8	$ 2.17
1989	1-15	5-7	109	7,013.0	2.4	16	$ 2.90
1990	1-15	4-09[e] 4-24[f]	179	24,549.3	2.3	15	$ 1.85
1990/91	11-20	3-25	225	40,081.6	2.4	19	$ 1.12
1991/92	11-15	3-31	285	31,796.4	2.5	10	$ 1.50

[a] Figures given in thousands - deadloss included.
[b] Catch Per Unit Effort
[c] Incidental to the king crab fishery.
[d] Partial Bering Sea closure.
[e] East of 165° W. long.
[f] West of 165° W. long.

Table 3. Historic Bering Sea *C. bairdi* economic performance.

Year	GHL[a]	Season Total[a]	Number Pots Registered	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[b]	Season Length (Days)	Season Length Dates
1979/80	28-36	36.5	40,273	152	804	488,434	$ .52	$ 19.0	(189)	11/01-05/14
1981	28-36	29.6	42,910	165	761	559,626	$ .58	$ 17.2	(88)	01/15-04/18
1981/82	12-16	10.9	36,396	125	791	490,099	$ 1.06	$ 11.5	(118)	02/15-06/15
1983	5.6	5.2	15,255	108	448	282,006	$ 1.20	$ 6.2	(118)	02/15-06/15
1984	7.1	1.2	9,851	41	134	61,357	$ .95	$ 1.1	(118)	02/15-06/15
1985	3.0	3.1	15,325	44	166	104,707	$ 1.40	$ 4.3	(149)	01/15-06/15
1986	NO COMERCIAL FISHERY									
1987	NO COMMERCIAL FISHERY									
1988	5.6	2.2	38,765	98	248	112,334	$ 2.17	$ 4.8	(93)	01/15-04/20
1989	13.5	7.0	43,607	109	359	184,892	$ 2.90	$ 20.3	(110)	01/15-05/07
1990[c]	29.5	24.5	46,440	179	1,032	711,137	$ 1.85	$ 45.3	(89)	01/15-04/24
1990/91	42.8	39.7	75,356	255	1,756	883,391	$ 1.12	$ 44.5	(126)	11/20-03/25
1991/92	32.8	31.5	85,401	285	2,339	1,244,633	$ 1.50	$ 47.3	(137)	11/15-03/31

[a] Millions of pounds.
[b] Millions of dollars.
[c] Winter fishing.

Table 4. Historic Bering Sea *C. bairdi* catch by season and subdistrict.

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1974/75	Southeastern		72	2,526,687	6,504,984	32,275	2.6	78	0
	Pribilof		8	247,083	523,394	3,923	2.1	63	0
	TOTAL	28	80	2,773,770	7,028,378	38,462	2.5	72	0
1975/76	Southeastern		230	6,682,232	16,643,194	106,445	2.5	63	0
	Pribilof		74	2,273,804	5,714,913	34,761	2.5	65	0
	TOTAL	66	304	8,856,036	22,358,107	141,206	2.5	63	0
1976/77	Southeastern		437	16,089,057	41,007,736	233,667	2.6	69	0
	Pribilof		104	4,162,451	10,447,485	63,804	2.5	65	0
	TOTAL	83	541	20,251,508	51,455,221	297,471	2.5	68	0
1977/78	Southeastern		706	21,055,527	53,278,012	408,437	2.5	52	0
	Pribilof		155	5,210,170	13,152,843	107,913	2.5	48	0
	TOTAL	120	861	26,350,688	66,648,954	516,350	2.5	51	218,099
1978/79	Southeastern		758	15,601,891	39,694,205	356,594	2.5	44	75,400
	Pribilof		59	1,124,627	2,852,969	46,103	2.5	24	600
	TOTAL	144	817	16,726,518	42,547,174	402,697	2.5	42	76,000
1979/80	Southeastern		789	14,329,889	35,724,003	476,410	2.5	30	56,446
	Pribilof		15	355,722	890,312	12,024	2.5	30	0
	TOTAL	152	804	14,685,611	36,614,315	488,434	2.5	30	56,446

-Continued-

Table 4. (page 2 of 3)

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1980/81	Southeastern		674	10,532,007	26,684,956	496,751	2.5	21	97,398
	Pribilof		87	1,313,951	2,945,536	62,875	2.5	21	4,196
	TOTAL	165	761	11,845,958	29,630,492	599,626	2.5	21	101,594
1981/82	Southeastern		539	3,825,433	8,812,302	322,634	2.3	12	69,829
	Pribilof		252	1,005,547	2,196,477	167,465	2.2	6	68,330
	TOTAL	125	791	4,830,980	11,008,779	490,099	2.3	10	138,159
1982/83	Northern		10	29,478	48,454	5,950	1.7	5	167
	Southeastern		287	1,984,673	4,633,354	192,538	2.3	10	52,879
	Pribilof		151	272,505	592,073	83,528	2.2	3	6,983
	TOTAL	108	448	2,286,756	5,273,881	282,006	2.3	8	60,029
1983/84	Southeastern		91	470,181	1,099,142	44,546	2.3	11	4,688
	Pribilof		43	46,759	109,081	16,811	2.3	3	337
	TOTAL	41	134	516,877	1,208,223	61,357	2.3	8	5,025
1985	Southeastern	38	143	1,278,109	3,139,041	96,976	2.4	13	14,096
	Pribilof	15	23	5,365	12,457	7,731	2.3	1	0
	TOTAL	44	166	1,283,474	3,151,498	104,707	2.4	12	14,096
1986	SEASON CLOSED	-	-	-	-	-	-	-	-

-Continued-

Table 4. (page 3 of 3)

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1987	SEASON CLOSED	-	-	-	-	-	-	-	-
1988	Eastern	98	248	897,059	2,210,394	112,334	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	TOTAL	98	248	897,059	2,210,394	112,334	2.5	8	10,724
1989	Eastern	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	TOTAL	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
1990	Eastern		1,105	10,708,996	24,529,165	701,924	2.3	15	87,475
	Western		17	8,928	20,134	9,213	2.3	<1	0
	TOTAL	179	1,032	10,717,924	24,549,299	711,137	2.3	15	87,475
1990/91	Eastern	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769
	Western	0	0	0	0	0	0	0	0
	TOTAL	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769
1991/92	Eastern	285	2,339	12,924,034	31,796,381	1,244,633	2.5	10	279,741

[a]Deadloss included.

Table 5. *C. bairdi* catch by month for the Eastern Bering Sea, 1991/92.

Month	Vssls	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Dead-loss
Nov	10	12	120,724	313,257	3,232	2.59	37	0
Dec	257	523	8,979,710	22,334,677	394,105	2.49	23	199,496
Jan	233	511	2,187,726	5,189,743	210,118	2.37	10	47,503
Feb	224	694	709,882	1,731,417	309,280	2.44	2	28,600
Mar	222	557	586,072	1,406,013	304,487	2.40	2	3,000
Apr	41	42	224,503	541,533	23,411	2.41	9	1,142
TOTAL	285	2,339	12,924,034	31,796,381	1,244,633	2.46	10	279,741

[a] Deadloss included.

Table 6. Bering Sea *C. bairdi* catch by statistical area, 1991/92.

Area	Landings	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Deadloss
605630	8	114,453	288,764	4,984	2.5	23	8,750
605700	11	140,834	366,646	6,120	2.6	23	2,500
615601	25	163,980	446,763	7,740	2.7	21	1,420
615630	110	1,217,073	3,228,315	51,147	2.6	24	25,760
615700	36	429,062	1,164,809	18,265	2.7	23	2,900
625600	53	493,394	1,247,746	24,966	2.5	20	12,950
625630	70	718,697	1,864,502	34,635	2.5	21	23,487
625700	4	2,904	7,633	161	2.6	18	0
635530	32	331,729	809,527	13,964	2.4	24	10,000
635600	91	770,748	1,898,072	37,032	2.4	21	12,639
635630	91	807,490	1,962,945	35,121	2.4	23	45,686
635700	9	63,626	156,662	3,782	2.4	17	9,000
645501	29	190,705	461,979	15,112	2.4	13	1,000
645530	79	798,116	1,909,468	37,359	2.3	21	7,563
645600	78	583,697	1,412,810	30,644	2.4	19	822
645630	49	350,904	852,489	16,165	2.4	22	14,521
645700	5	28,052	67,781	1,401	2.4	20	0
655500	21	56,062	135,096	3,066	2.4	18	1,600
655530	51	343,512	821,898	23,428	2.3	15	5,000
655600	34	171,769	398,954	10,586	2.3	16	3,000
655630	6	5,231	12,841	506	2.4	10	0
665500	19	101,317	239,085	7,606	2.3	13	0
665530	77	80,848	193,050	31.706	2.3	3	0
665600	100	175,802	426,390	38,284	2.4	5	2,000
665630	23	33,826	77,588	8,717	2.2	4	0
675500	11	9,573	21,575	3,943	2.2	2	0
675530	98	67,921	162,831	45,358	2.4	1	1,500
675600	196	154,577	365,224	73,285	2.3	2	3,700
675630	66	50,273	119,301	22,273	2.3	2	0
685500	4	2,203	5,337	1,443	2.4	1	0
685530	56	25,910	61,868	25,829	2.3	1	1,500
685600	173	130,683	312,596	72,649	2.3	2	5,300
685630	182	167,883	402,731	64,679	2.4	3	0
685700	8	36,544	91,227	3,574	2.5	10	800
695600	16	25,153	58,311	6,284	2.3	4	

-Continued-

Table 6. (page 2 of 2)

Area	Landings	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Deadloss
695631	71	186,243	449,886	21,562	2.4	9	1,818
695632	4	32,124	89,681	859	2.7	37	
695700	10	17,559	69,768	2,361	2.2	7	894
705600	70	277,413	672,989	31,272	2.4	9	5,770
705630	154	1,313,673	3,173,525	70,309	2.4	19	29,339
705701	141	1,045,046	2,470,394	59,152	2.3	18	18,967
705702	5	76,963	177,053	2,107	2.3	36	
705730	27	64,989	150,225	5,893	2.3	11	3,060
715600	15	9,071	20,323	4,468	2.2	2	
715630	209	210,124	491,617	79,075	2.3	3	4,343
715700	248	615,930	1,442,687	91,637	2.3	7	7,284
715730	38	22,491	52,408	12,209	2.3	1	
725630	64	20,100	45,089	26,356	2.2	1	
725700	61	19,385	46,237	20,189	2.3	1	1,000
725730	19	4,451	10,309	6,848	2.3	1	
735630	4	3,860	8,515	2,670	2.2	1	
735700	13	5,924	13,759	4,196	2.3	1	
735730	14	7,723	18,175	6,567	2.3	1	
735800	5	3,261	6,796	1,771	2.3	2	
OTHER	41	143,153	364,131	13,318	2.5	11	4,660
TOTAL	2,763	12,924,034	31,796,381	1,244,633	2.4	10	279,741

[a] Deadloss included.

Table 7. Historic Bering Sea *C. opilio* catch statistics by season.

Year	Vssls	Lndgs	No. Crab[a]	No. Pounds[a]	Pots Lifted	CPUE	% New Shell[b]	Avg. Wt.	Width (mm)[b]	Pounds Deadloss
1977/78	15	38	1,267,546	1,716,124	13,247	96	NA	1.4	NA	0
1978/79	102	490	22,118,498	32,187,039	190,746	115	83.0	1.5	113.1	759,173
1979/80	134	597	25,286,777	39,572,668	255,022	95	90.0	1.6	118.1	228,345
1981	153	867	34,415,322	52,750,034	435,742	79	79.2	1.5	117.0	2,269,979
1982	122	803	24,089,562	29,355,379	469,091	51	78.0	1.2	109.4	1,042,655
1983	109	462	23,838,149	26,128,410	287,127	83	NA	1.1	NA	1,324,466
1984[c]	52	367	21,009,935	26,813,074	173,591	138	78.0	1.1	105.4	798,744
1985[d]	75	718	52,903,246	65,998,875	372,045	120	80.0	1.3	108.0	1,064,184
1986[e]	88	992	76,499,123	97,984,539	543,744	141	73.7	1.3	109.5	1,392,933
1987	103	1,038	81,307,659	101,903,388	616,113	132	84.0	1.2	108.9	978,449
1988	171	1,285	105,716,337	134,060,185	766,907	137	71.2[f]	1.3	109.5	3,260,020
1989	168	1,341	112,618,881	149,455,848	663,442	178	85.2[f]	1.3	111.2	1,844,682
1990	189	1,565	128,977,638	161,821,350	911,613	139	97.4[f]	1.3	109.1	1,796,664
1991	220	2,788	265,123,960	328,647,269	1,391,583	188	95.1	1.2	110.2	3,464,036
1992	250	2,763	227,376,582	315,302,034	1,281,796	176	97.6	1.4	111.7	2,325,852

[a] Deadloss included.
[b] Southeast and Pribilof Districts only.
[c] North of 58° reopened until 12/31.
[d] West of 164° opened through 12/31.
[e] Open only west of 164° W. long.
[f] Eastern and Western Districts combined.

Table 8. Historic Bering Sea *C. opilio* seasons.

Season	Opened	Closed	Vssls.	Pounds[a]	Avg. Wt.	CPUE	Price Per Pound
1977/78	09-15-77	09-23-78	13	1,716,124	1.4	96	$ .38
1978/79	11-01-78	09-03-79	134	32,187,039	1.5	115	.30
1979/80	11-01-79	08-15-80 09-03-80[b]	152	39,572,668	1.6	99	.21
1981	01-15-81	08-01-81 09-01-81[b]	153	52,750,034	1.5	76	.26
1982	02-15-82	08-01-82	122	29,355,374	1.2	51	.73
1983	02-15-83	05-22-83 06-15-83[c]	109	26,128,410	1.1	83	.35[b]
1984	02-15-84 08-01-84	08-01-84 12-31-84[d]	52	23,940,984 2,872,090	1.1 1.1	147 125	.30
1985	01-15-85 10-09-85	09-22-85 12-31-85[e]	75	57,446,554 8,552,321	1.2	142	.30
1986	01-15-86	09-24-86[f]	88	97,984,539	1.3	141	.60
1987	01-15-87	06-22-87	103	101,903,388	1.2	132	.75
1988	01-15-88 05-15-88	03-29-88 06-30-88	161 156 171	75,695,562 59,659,075 135,354,637	1.3 1.3 1.3	141 146 144	.75 .80 .77
1989	01-15-89	03-26-89 05-07-89	168	149,455,848	1.3	178	.75
1990	01-15-90	04-24-90[f] 06-12-90	177 152 178	94,831,897 66,989,453 161,821,350	1.2 1.3 1.2	148 130 135	.64[b]
1991	01-15-91	05-05-91 06-23-91	218 186 220	240,090,666 88,556,603 328,647,269	1.3 1.2 1.2	206 153 188	.50
1992	01-15-92	04-22-92	250	315,302,034	1.4	176	.50

[a] Deadloss included.
[b] Varied according to size.
[c] Partial Bering Sea closure.
[d] North of 58° only.
[e] West of 164° opened through 12-31-85.
[f] Open only west of 164° W. long.

Table 9. Historic Bering Sea *C. opilio* economic performance.

Year	GHL[a]	Season Total[a]	Number Pots Registered[b]	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[c]	Season Length (Days)	Season Length Dates
1979/80	N/A	39.3	35,503	134	597	255,022	$ .21	$ 83.0	(307)	11/01-09/03
1980/81	39.5-91	50.5	39,789	153	867	435,742	$ .26	$ 13.1	(229)	01/15-09/01
1981/82	16-22	28.3	35,522	122	803	469,091	$ .73	$ 20.7	(167)	02/15-08/01
1982/83	15.8	24.8	15,396	109	462	287,127	$ .35	$ 8.7	(120)	02/15-06/01
1983/84[d]	49.0	26.0	12,493	52	367	173,591	$ .30	$ 7.8	(320)	02/15-12/03
1984/85[d]	98.0	64.9	15,325	75	718	372,045	$ .30	$ 19.5	(333)	01/15-09/22 AND 10/09-12/31
1985/86[d]	57.0	96.6	13,750	88	992	543,744	$ .60	$ 60.0	(252)	01/15-09/24
1986/87	56.4	100.9	19,386	103	1,038	616,113	$ .75	$ 75.7	(158)	01/15-06/22
1987/88	110.7	130.8	38,765	171	1,285	766,907	$ .77	$100.7	(120)	01/15-03/29 AND 05/15-06/30
1988/89	132.0	147.6	43,607	168	1,341	663,442	$ .75	$110.7	(112)	01/15-05/07
1989/90	139.8	161.8	46,440	189	1,565	911,613	$ .64	$102.3	(148)	01/15-06/12
1990/91	315.0	325.2	76,056	220	2,788	1,391,583	$ .50	$162.6	(159)	01/15-06/23
1991/92	333.0	313.0	77,858[e]	250	2,763	1,281,796	$ .50	$156.5	(97)	01/15-04/22

[a] Millions of pounds.
[b] Same gear as *C. bairdi* fishery.
[c] Millions of dollars.
[d] Partial closures only.
[e] Gear of *C. opilio* vessels only.

Table 10. Historic Bering Sea *C. opilio* catch by season and subdistrict.

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1977/78	Southeastern		33	1,063,872	1,439,959	11,560	1.4	0	0
	Pribilof		5	203,674	276,165	1,687	1.4	121	0
	TOTAL	13	38	1,267,546	1,716,124	13,247	1.4	96	0
1978/79	Southeastern	101	476	21,279,794	31,102,832	184,491	1.5	115	659,137
	Pribilof	10	14	838,704	1,084,039	6,225	1.5	134	100,000
	TOTAL	102	490	22,118,498	32,187,039	190,746	1.5	115	759,137
1979/80	Southeastern	133	561	23,199,446	36,406,391	237,375	1.6	97	187,945
	Pribilof	19	36	2,087,331	3,166,777	17,727	1.5	116	40,400
	TOTAL	134	597	25,286,777	39,572,668	225,102	1.6	99	228,345
1980	Southeastern		624	24,498,642	37,866,229	309,304	1.6	76	1,475,078
	Pribilof		243	9,916,617	14,886,705	126,438	1.5	74	794,901
	TOTAL	153	867	34,415,322	52,753,034	435,742	1.5	76	2,269,979
1982	Southeastern		468	10,207,174	13,079,583	257,193	1.3	40	422,979
	Pribilof		335	13,882,388	16,276,421	211,898	1.2	65	
	TOTAL	122	803	24,089,562	29,355,374	469,091	1.2	51	1,092,655

-Continued-

Table 10. (page 2 of 3)

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1983	Southeastern		153	3,553,281	94,197,304	4,470	1.2	38	165,298
	Pribilof		239	19,076,553	20,514,000	153,458	1.0	124	1,078,643
	Northern		69	1,223,813	1,417,106	39,199	1.1	31	80,525
	TOTAL	109	461	23,853,647	26,128,410	287,127	1.1	83	1,324,466
1984	Southeastern		76	3,534,370	3,990,621	33,091	1.1	106	54,678
	Pribilof		230	17,909,096	19,727,493	112,078	1.1	160	708,706
	Northern		61	2,566,469	3,094,960	28,422	1.2	91	35,411
	TOTAL	52	367	24,009,935	26,813,074	173,591	1.1	138	798,795
1985	Southeastern	55	301	21,963,882	27,373,232	158,819	1.4	95	461,001
	Pribilof	60	301	24,089,526	29,804,093	142,937	1.2	168	505,146
	Northern	24	116	6,849,838	8,821,550	70,289	1.3	97	98,037
	TOTAL	75	718	52,903,246	65,998,875	372,045	1.3	120	1,064,184
1986	Southeastern	47	112	8,491,694	10,957,578	63,889	1.3	132	44,755
	Pribilof	80	508	39,851,767	50,525,150	281,337	1.3	142	472,342
	Northern	67	372	28,155,662	36,501,811	198,518	1.3	142	861,436
	TOTAL	88	992	76,499,123	97,984,539	543,744	1.3	141	1,378,533
1987	Southeastern	28	64	4,116,778	5,106,473	24,619	1.2	167	24,619
	Pribilof	94	458	38,604,802	47,676,734	261,337	1.2	163	261,337
	Northern	99	516	38,586,079	49,120,181	330,157	1.2	117	330,157
	TOTAL	103	1,038	81,307,659	101,903,388	616,113	1.2	132	978,449

-Continued-

Table 10. (page 3 of 3)

Season	Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
1988	Eastern	161	770	59,838,392	75,695,562	422,719	1.3	141	775,104
	Western	156	515	47,330,314	59,689,075	323,196	1.3	146	2,484,916
	TOTAL	171	1,283	107,168,706	135,354,637	745,915	1.3	144	3,260,020
1989	Eastern	163	871	77,698,698	104,399,693	391,451	1.3	198	1,128,971
	Western	127	470	34,920,183	45,056,155	271,991	1.3	126	715,711
	TOTAL	168	1,341	112,618,881	149,455,848	663,442	1.3	178	1,844,682
1990	Eastern	177	956	76,331,829	94,831,897	512,259	1.2	148	1,010,755
	Western	152	659	52,645,809	66,989,453	399,354	1.3	130	785,909
	TOTAL	189	1,565	128,977,638	161,821,350	911,613	1.3	139	1,796,664
1991	Eastern	218	2,013	190,139,612	240,090,666	912,751	1.3	206	1,593,021
	Western	186	867	74,984,348	88,556,603	478,832	1.2	156	1,871,015
	TOTAL	220	2,788	265,123,960	328,647,269	1,391,583	1.2	188	3,464,036
1992	Eastern	250	N/A	217,375,564	302,363,005	1,228,280	1.4	177	2,268,467
	Western	55	N/A	10,001,018	12,939,029	53,516	1.3	187	57,385
	TOTAL	250	2,763	227,376,582	315,302,034	1,281,796	1.4	177	2,325,852

[a] Deadloss included.

Table 11. *C. opilio* catch by district and month for the Eastern Bering Sea, 1992.

Subdistrict	Vssls.	Lndgs.	No. Crab[a]	No. Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
January								
Eastern	216	413	40,780,684	57,871,882	166,618	1.42	243	410,319
Western				No Catch Reported				
Jan Total	216	413	40,780,684	57,871,882	166,618	1.42	243	410,319
February								
Eastern	239	886	86,886,665	121,433,656	379,903	1.40	227	744,955
Western[b]	12	18	1,872,028	2,436,459	5,672	1.29	330	1,070
Feb Total	239	891[c]	88,758,693	123,870,115	385,575	1.40	230	746,025
March								
Eastern	243	773	56,513,693	78,586,398	376,859	1.39	149	692,052
Western	39	86	6,139,119	7,935,374	30,141	1.29	203	45,150
Mar Total	246	812[c]	62,652,812	86,521,772	407,000	1.38	154	737,202
April								
Eastern	233	624	33,194,522	44,471,069	304,900	1.34	109	421,141
Western	31	49	1,989,871	2,567,196	17,703	1.29	112	11,165
Apr Total	239	646[c]	35,184,393	47,038,265	322,603	1.34	108	432,306
Season Subdistrict Total								
Eastern	250		217,375,564	302,633,005	1,228,280	1.39	177	2,268,467
Western	55		10,001,018	12,939,029	53,516	1.29	187	57,385
Season Total	250	2,763	227,376,582	315,302,034	1,281,796	1.39	177	2,325,852

[a] Deadloss included.
[b] Includes one January landing.
[c] Multiple district landings.

Table 12. Bering Sea *C. opilio* catch by statistical area, 1991/92.

Area	Landings	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
645501	8	663,714	959,922	5,859	1.4	113	2,600
645530	4	48,175	61,865	975	1.2	49	180
655500	21	671,818	1,035,726	7,119	1.5	94	8,500
655530	50	2,107,807	3,174,362	22,230	1.5	95	15,950
655600	30	929,220	1,443,541	8,045	1.5	115	10,278
655630	4	111,165	168,727	1,054	1.5	105	1,360
665500	25	630,248	945,362	6,397	1.5	98	4,210
665530	122	5,697,951	8,914,662	41,394	1.5	138	39,449
665600	168	8,132,160	12,581,808	56,120	1.5	144	100,893
665630	30	2,012,706	2,995,767	12,193	1.4	165	10,899
675500	27	1,433,473	2,112,239	8,719	1.4	164	5,705
675530	177	10,078,654	14,928,787	65,807	1.4	153	105,692
675600	338	21,739,766	31,760,270	119,996	1.4	181	165,313
675630	115	6,726,832	9,605,225	39,671	1.4	120	54,728
685500	7	649,305	938,857	2,688	1.4	242	2,866
685530	93	6,359,270	9,070,098	35,702	1.4	178	77,711
685600	287	20,003,002	28,242,355	104,798	1.4	191	173,452
685630	283	16,244,467	22,699,726	84,698	1.4	192	148,410
685700	10	409,170	574,344	2,559	1.4	150	6,629
695530	4	126,718	205,155	1,190	1.6	106	2,500
695600	19	1,293,843	1,831,334	8,834	1.4	146	46,370
695631	68	3,421,974	4,849,398	18,681	1.4	183	46,501
695700	9	427,205	601,113	2,531	1.4	169	3,500
705600	64	3,080,933	4,217,615	22,615	1.3	136	34,722
705630	100	5,715,015	7,685,041	39,119	1.3	146	42,996
705701	88	5,869,498	8,136,407	27,247	1.3	215	70,745
705730	14	622,699	843,312	2,671	1.3	233	36,564
715600	44	1,687,713	2,239,294	10,712	1.3	158	17,535
715630	354	23,566,291	31,169,310	122,517	1.3	192	306,978
715700	394	29,119,909	39,297,404	145,054	1.3	200	363,294
715730	67	3,677,704	4,860,101	17,011	1.3	216	32,490
715800	9	273,736	342,576	1,030	1.2	266	0
725600	10	207,042	289,187	1,862	1.4	111	550
725630	200	12,158,221	15,704,476	67,157	1.2	181	146,341
725700	241	12,589,099	16,169,162	68,451	1.2	184	111,831
725730	112	6,655,449	8,571,063	29,706	1.2	224	37,606
725800	10	359,998	480,529	2,062	1.3	175	10,000
735600	4	87,747	131,231	459	1.5	191	0
735630	9	326,587	376,509	2,154	1.1	152	8,600

-Continued-

Table 12. (page 2 of 2)

Area	Landings	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
735700	70	2,848,172	3,672,868	21,018	1.2	135	17,395
735730	70	4,307,266	5,577,825	18,520	1.2	233	18,724
735800	29	1,460,984	1,877,309	6,206	1.2	235	9,466
735830	4	62,129	77,873	415	1.2	150	200
745800	6	55,154	69,249	355	1.2	155	0
745900	4	153,385	205,314	889	1.3	172	0
755830	4	48,663	63,201	246	1.3	198	0
OTHERS	58	2,524,545	3,544,535	17,058	1.4	148	26,119
TOTAL	2,763	227,376,582	315,302,034	1,281,796	1.3	177	2,325,852

[a] Deadloss included.

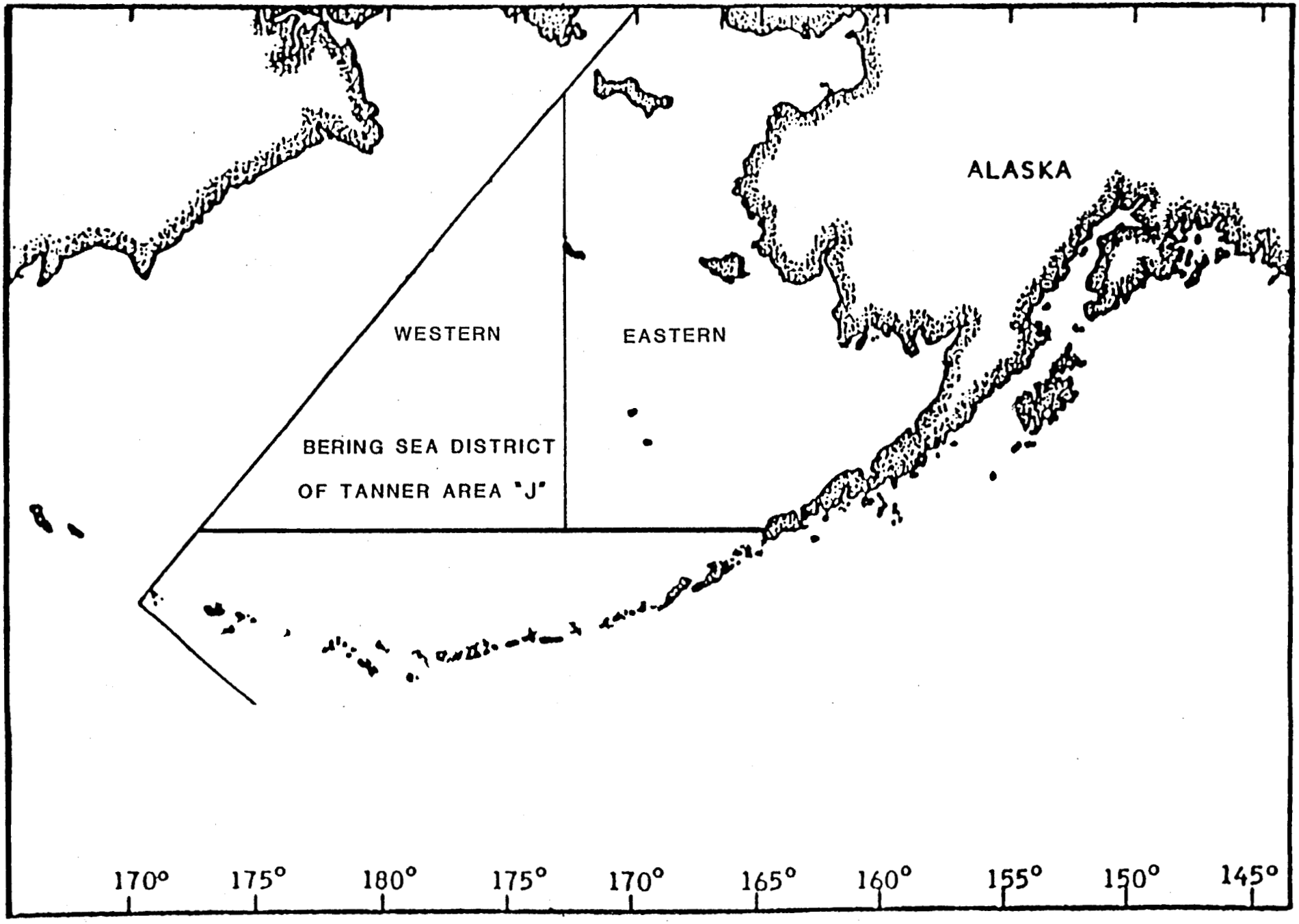

Figure 1. BERING SEA TANNER CRAB SUBDISTRICTS

KING CRAB REGISTRATION AREA 'T' BRISTOL BAY

Introduction

The Bristol Bay king crab statistical registration Area T includes all waters north of Cape Sarichef, east of 168° W. long. and south of the latitude of Cape Newenham and includes all waters of Bristol Bay. The Eastern Bering Sea king crab fishery traditionally takes red king crab from the Bering Sea and Bristol Bay waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden.

Historic Background

Commercial king crab fishing in the Bering Sea began with the Japanese in 1930 and continued until 1940. They returned to the fishery in 1953 and remained until 1974. The Russian king crab fleet operated in the eastern Bering Sea from 1959 through 1971. United States fishermen entered the Eastern Bering Sea fishery with trawl gear in 1947. Effort and catches declined in the fifties with no catch being reported in 1959. A period of fluctuating low catches followed through 1966 before expanding to the full scale fishery of the mid to late seventies. As in other areas of the state, the stocks crashed in the early eighties but unlike other areas in the state, appear to be slowly recovering.

With the decline of king crab stocks in other areas of the state in 1968, U. S. effort continued to increase in the Eastern Bering Sea with a record catch of 129.9 million pounds landed during the 1980 season (Table 1).

In 1980 the Board of Fisheries made the Southeastern District of the Bering Sea (the major red king crab grounds) an exclusive registration area calling this area Bristol Bay, Registration Area T. Vessels now registering for and fishing in this area are prohibited from fishing in any other exclusive registration area leaving only the Bering Sea, Area Q and Adak, Area R, as alternative fishing areas.

Bristol Bay remained closed during the 1983/84 season due to historic low levels of legal males and the lowest ever recorded total king crab population. Small females carrying fewer eggs and high predator abundance also contributed to the closure decision.

Since the reopening of the fishery in 1984, catches have slowly increased to over 20.3 million pounds harvested during the 1990 season. Due to the large number of catcher processors and floater processors in the fishery and the inability of the department to monitor these catches, a mandatory observer program was initiated in 1988. Fishing effort has increased dramatically from 89 vessels in 1984 to over 300 vessels in 1991. With the increase in fishing effort, the amount of pots being used by the fleet has also increased, with over 90,000 registered in 1991.

In 1992, the Board of Fisheries established a 250 pot limit for the Bristol Bay red king crab fishery. This measure was to assist the manager's ability to monitor the fishery and control the harvest.

1992 Fishery

The 1992 National Marine Fisheries Service summer survey results were made public on August 31 when the department announced a preliminary harvest guideline of about 10 million pounds. This early announcement was to assist industry with planning and eliminate rumors of the projected harvest guideline. On September 4, another news release announced the 10.3 million pound harvest guideline, and advised industry of the declines in all segments of these stocks.

On October 5, a petition from the Alaska Crab Coalition (ACC) proposed season changes for Bristol Bay red king crab and Bering Sea Tanner crab fisheries. The department reviewed many opposing views of the proposal and decided not to consider any changes for the 1992/93 fisheries. Industry was reminded that many of their requests and recommendations in the petition would be addressed at the spring Board of Fisheries meeting in February 1993.

Tank inspection locations were announced on October 7. Tank inspections were not conducted in Port Moller due to safety concerns of the Department and industry. To assist the smaller vessels in the fleet, tank inspections at King Cove began 48 hours prior to the opening of the fishery. Hopefully, this would allow adequate running time to the fishing grounds.

The fishery opened by regulation at 12:00 noon, November 1 with 283 vessels receiving tank inspection at Dutch Harbor, Akutan, St. Paul and King Cove. Due to joint ventures in Russian waters, only 17 catcher processors registered. With the low harvest guideline, fewer floater processors also participated in the fishery. This effort is 19 vessels less than the 1991 fishery and the 250 pot limit decreased the number of pots of on the grounds by over 20,000 pots. The actual number fished in 1992 is probably somewhat less than 70,000, as some vessels that purchased the total 250 buoy stickers indicated they did not plan to fish the entire amount allowed by regulation.

Because of the higher than average vessel effort and the decrease in the preseason harvest guideline of 8 million pounds from the 1991 preseason harvest guideline, the department elected to manage the season on vessel effort rather than try to make decisions based on a few days' information received during the fishery. This would also allow the fleet to make decisions on travel, fishing locations and whether to run to the storage areas for additional gear. On November 1, a few hours before the opening, the closure was announced for November 8, allowing for a seven day fishery.

On November 3, a few vessels began reporting problems with the buoy identification stickers not adhering to the buoys and some actually separating. The two protection vessels reported that from 2 to 5 percent of the gear they pulled were missing stickers, but felt that most of the problem was associated with the application of the sticker and not the sticker itself. With the loss of buoy identification stickers being wide spread throughout the fleet and the department already

having met its expenses to cover the cost of the program, the staff elected to issue replacement stickers at no cost to the vessels requesting them. All regulations pertaining to receiving replacements remained in effect.

On November 10, after receiving numerous reports of buoy identification stickers falling off and separating, the department announced the suspension of the buoy identification sticker requirement, but that the pot limit still remained in effect. An emergency regulation was also issued repealing this requirement. On November 30, NMFS announced the suspension of the Bering Sea pot limits due to the inconsistency with the Federal Management Plan for the Bering Sea/Aleutian Islands.

Inclement weather this season was a definite factor for the smaller vessels in the fishery, and apparently affected a majority of the fleet when it came time to unbait pots and meet the 24 hour delivery requirements set forth in the regulations. Starting as early as the morning of November 7, 24 hours before the closure, some processors began calling ADF&G stating that due to the weather forecast vessels were concerned about reaching their delivery points within 24 hours after the closure.

Within a few hours of the closure on November 8, vessels began reporting to ADF&G and the Fish and Wildlife Protection vessel Wolstad, the number of pots that were still baited at the time of the closure and their locations. Vessels were told to work on unbaiting the gear and then would be dealt with on an individual basis on the delivery requirements. Approximately 33 vessels called in and reported anywhere from 4 to 175 pots that were still baited after the closure. Some also reported injured crewmen or mechanical breakdown.

Beginning the morning of November 9, approximately 20 hours after the closure, over 100 vessels began reporting, again due to weather, they would be late to their delivery points anywhere from a few hours to over 29 hours. Many other vessels, including smaller vessels, less than 100 feet keel length, were already at the docks delivering crab.

Even though it appears that a majority of the fleet fished right up to the closure of the area, the harvest fell short of the preseason harvest guideline. A total of 281 vessels landed 8.0 million pounds of red king crab during the seven day season. Average catch per pot was 6 crabs, compared to 12 during the 1991 season (Table 1). As indicated by the survey, smaller crab were not abundant in the area and with the strong year classes of several years ago moving through the fishery, an average weight of 6.7 pounds per crab was realized, 0.2 pounds larger than the 1991 season and the largest average weights recorded since the fishery reopened in 1984 (Tables 1 and 4).

The catcher processor fleet, eight less than the 1991 season and the smallest effort since 1986, averaged over 40,000 pounds per vessel, 12,000 more than the average catcher vessel. The larger catcher processors pulled an average of 231 more pots than the catcher vessels. Both vessel classes averaged six crab per pot, (Table 1). It appears that the larger catcher processors are capable of hauling, fishing and pulling more pots, which may account for the difference in average catches (Table 5).

The average keel length of the 1992 Bristol Bay fleet was 107.4 feet, compared to 111.3 feet in 1991. Additionally, there were 68,189 pots registered, a reduction of approximately 22,000 pots from the previous season. This gear reduction is directly attributable to the new pot limit (Table 2).

The 1992 fishery occurred over 20,700 square miles, somewhat less than the 1991 season. The majority of the catch, 55 percent or 4.4 million pounds, was harvested from two statistical areas (Table 4). The value of the fishery was over $40 million to the fleet.

Stock Status

The National Marine Fisheries Service estimated the legal male population in 1992 to be 4.9 million crabs, an overall decline of 6.6 million crabs. The estimated population of adult females and males declined sharply. Additionally, estimated prerecruit populations were the lowest ever recorded in the 23 year history of the survey of these stocks.

With continued declines in the Bristol Bay red king crab population, this fishery is considered depressed and the possibility of future fisheries is questionable.

Table 1. Historic U.S. red king crab catch in the Bristol Bay Registration Area T of the Bering Sea.

Year	Vssls	Lndg	No. of Crab[a]	No. of Pounds[a]	Pots Lifted	Avg. Wt.	Average Length (mm)	CPUE	% Old Shell	Deadloss
1966	9	15	140,554	997,321	2,720	7.1		52		
1967	20	61	397,307	3,102,443	10,621	7.8		37		
1968	59	261	1,278,592	8,686,546	47,496	6.8		27		
1969	65	377	1,749,022	10,403,283	98,426	5.9		18		
1970	51	309	1,682,591	8,559,178	96,658	5.1		17		
1971	52	394	2,404,681	12,955,776	118,522	5.4		20		
1972	64	611	3,994,356	21,744,924	205,045	5.4		20		
1973	67	441	4,825,963	26,913,636	194,095	5.6		25		N/A
1974	104	605	7,710,317	42,266,274	212,915	5.5		36		N/A
1975	102	592	8,745,294	51,326,259	205,096	5.7		43		1,639,483
1976	141	984	10,603,367	63,919,728	321,010	6.0	147.9	33	27.4	875,327
1977	130	1,020	11,733,101	69,967,868	451,273	5.9	147.9	26	13.0	730,279
1978	162	926	14,745,709	87,618,320	406,165	5.8	147.0	36	6.9	1,273,037
1979	236	889	16,808,605	107,828,057	315,226	6.4	152.3	53	10.4	3,555,891
1980	236	1,251	20,845,350	129,948,463	567,292	6.2	151.1	37	11.0	1,858,668
1981	177	1,026	5,307,947	33,591,368	542,250	6.3	151.1	10	47.4	711,289
1982	90	255	541,006	3,001,210	141,656	5.6	145.2	4	24.6	95,834
1983			NO COMMERCIAL FISHERY							
1984	89	137	794,040	4,182,406	112,556	5.2	142.4	7	26.5	35,601
1985	128	130	796,181	4,174,953	85,003	5.5	142.3	9	25.8	6,436
1986	159	230	2,099,576	11,393,934	178,370	5.4	142.2	12	25.5	284,127
1987	236	311	2,122,402	12,289,067	220,871	5.8	144.7	9	19.0	120,388
1988	200	201	1,236,131	7,387,795	153,004	6.0	146.9	8	15.1	23,537
1989	211	287	1,684,706	10,264,791	208,684	6.1	148.4	8	17.7	81,334
1990	240	331	3,120,326	20,362,342	262,131	6.5	151.6	12	14.7	116,527
1991	302	324	2,630,446	17,177,894[b]	227,555	6.5	151.9[c]	12	12.1	119,670
1992	281	289	1,196,958	8,043,018[b]	205,940	6.7	152.8[c]	6	22.3	9,000

[a] Deadloss included.
[b] Includes test fishery.
[c] Floater, catcher processor, ADF&G samples.

Table 2. Historic Bristol Bay red king crab economic performance.

Year	GHL[a]	Harvest[b]	Number Pots Registered	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[c]	Season Length (Days)	Season Length Dates
1980	70-120	128.1	78,352	236	1,251	567,292	$ .90	$115.3	(40)	09/10-10/20
1981	70-100	32.9	75,756	177	1,026	542,250	$ 1.50	$ 49.3	(91)	09/10-12/15
1982	10-20[d]	2.9	36,166	90	255	141,656	$ 3.05	$ 8.8	(30)	09/10-10/10
1983			N O C O M M E R C I A L F I S H E R Y							
1984	2.5-6.0	4.1	21,762	89	137	112,556	$ 2.60	$ 10.8	(15)	10/01-10/16
1985	3-5	4.2	30,117	128	130	85,003	$ 2.90	$ 12.1	(8)	09/25-10/02
1986	6-13	11.1	32,468	159	230	178,370	$ 4.05	$ 45.0	(13)	09/25-10/07
1987	8.5-17.7	12.2	63,000	236	311	220,871	$ 4.00	$ 48.7	(12)	09/25-10/06
1988	7.5	7.4	50,099	200	201	153,004	$ 5.10	$ 37.6	(8)	09/25-10/02
1989	16.5	10.2	55,000	211	287	208,684	$ 5.00	$ 50.9	(12)	09/25-10/06
1990	17.1	20.2	69,906	240	331	262,131	$ 5.00	$101.2	(12)	11/01-11/13
1991	18	17.1	89,068	302	332	227,555	$ 3.00	$ 51.2	(7)	11/01-11-08
1992	10.3	8.0	68,189	281	289	205,940	$ 5.00	$ 40.0	(7)	11/01-11/08

[a] Guideline Harvest Level (millions of pounds).
[b] Millions of pounds.
[c] Millions of dollars.
[d] Inseason revision to 4.7 million pounds.

Table 3. Bering Sea red king crab harvest composition by fishing season.

Season	Opened-Closed	Catch[a]	Percent Recruit[b]	Percent Post Recruit[b]	Size Limit	Average Price Per Pound
1973	06/15-09/09	28.2	63	37	6¼" 03/01-10/31	-
					6½" 11/01-01/28	$0.84
1974	07/29-10/12	41.9	60	40	6¼" 03/01-10/31	-
					6½" 11/01-01/18	$0.38
1975	08/01-11/16	51.3	21	79	6¼" 03/01-10/31	-
					6½" 11/01-02/28	$0.38
1976	08/15-12/07	63.9	56	44	6½"	$0.58
1977	09/15-12/08	70.0	67	33	6½"	$1.11
1978	09/10-10/23	87.6	75	25	6½"	$1.23
1979	09/15-10/14	107.8	47	53	6½"	$1.01
1980	09/10-10/20	129.9	44	56	6½"	$ .90
1981	09/10-10/20	32.0	-	-	6½"	-
	10/25-12/15	1.5	14	86	7"	$1.50
1982	09/10-10/10	3.0	68	32	6½"	$3.05
1983	N O C O M M E R C I A L F I S H E R Y					
1984	10/01-10/16	4.2	59	41	6½"	$2.60
1985	09/25-10/02	4.1	66	34	6½"	$2.90
1986	09/25-10/07	11.4	65	35	6½"	$4.05
1987	09/25-10/06	12.3	77	23	6½"	$4.00
1988	09/25-10/02	7.4	59	41	6½"	$5.10
1989	09/25-10/06	10.3	58	42	6½"	$5.00
1990	11/01-11/13	20.4	49	51	6½"	$5.00
1991	11/01-11/08	17.2	44	56	6½"	$3.00
1992	11/01-11/08	8.0	33	67	6½"	$5.00

[a] Deadloss included, millions of pounds.
[b] Recruits figured at 149 mm - all previous years, 155 mm.

Table 4. 1992 Bristol Bay king crab catch by statistical area.

Stat Area	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Dead-loss #
605630	7	22,303	146,586	3,367	6.57	7	500
605700	4	9,234	64,137	1,525	6.95	6	0
615601	3	23,191	155,261	4,386	6.69	5	0
615630	98	273,793	1,842,263	44,746	6.73	6	500
615700	25	46,192	312,448	7,513	6.76	6	0
625600	39	62,350	416,071	11,769	6.67	5	1,200
625630	127	284,865	2,575,318	59,803	6.69	6	4,300
625700	58	130,385	871,928	255,817	6.69	5	0
625730	5	12,001	81,141	2,111	6.76	6	0
635600	18	25,254	171,041	5,814	6.77	4	0
635630	38	99,841	671,366	16,955	6.72	6	2,500
635700	26	77,846	533,767	14,078	6.86	6	0
645600	8	2,943	19,563	1,284	6.65	2	0
645630	10	13,409	92,449	3,962	6.89	3	0
655630	4	3,179	21,469	1,030	6.75	3	0
Others	12	10,172	68,210	1,780	6.71	6	0
Totals	289	1,196,958	8,043,018	205,940	6.72	6	9,000

[a] Deadloss included.

Table 5. Comparative average catches of catcher/processor vs catcher vessels from Bristol Bay king crab seasons.

	SEASONS					
	1992	1991	1990	1989	1988	1987
Number of Catcher Processors	17	25	20	18	20	21
Number of Catchers	264	278	219	193	180	215
Pounds of CP Catch	681,784	2,333,532	2,708,805	1,334,083	994,546	2,342,142
Percent of CP Catch[a]	8.5	13.6	13.3	13.0	13.5	19.0
Average CP Catch	40,105	93,341	135,440	74,116	49,727	111,530
Average Catcher Catch[b]	27,883	53,397	80,220	46,273	35,515	46,265
Average CPUE CP's	6	14	13.9	9.4	7.8	13.8
Average CPUE Catchers	6	11	12.0	7.9	8.2	8.9
Total Catch	8,043,018	17,177,894[c]	20,276,979	10,264,791	7,387,258	12,289,067
Average # Pots Pulled CP's	950	1,012	1,483	1,289	1,039	1,376
Average # Pots Pulled Catcher	719	727	1,061	961	730	893
CP Range Catch	9,062-61,684	41,091-170,373	41,458-265,151	21,905-185,408	19,796-98,875	5,300-268,750

[a] CP total catch divided by total catch.
[b] Total catch less CP catch divided by number catcher only vessels.
[c] Includes 206,529 pounds test fishery.

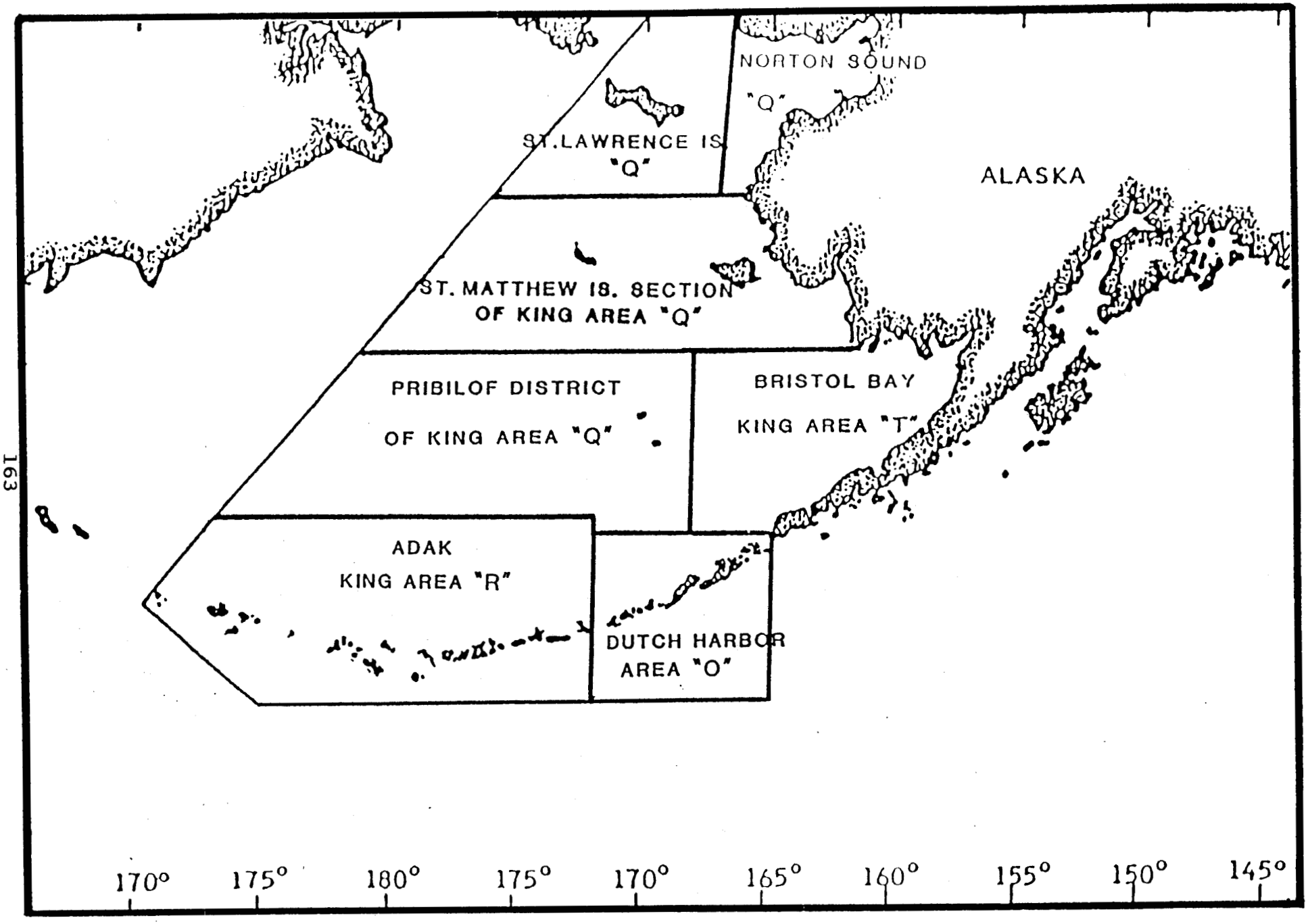

Figure 1. Bristol Bay king crab registration area "T".

KING CRAB STATISTICAL AREA Q
BERING SEA

Description

The Bering Sea king crab statistical Area Q includes all waters west of 168° W. long. to the U.S.-Russian convention line of 1867 and north to the latitude of Cape Newenham at 58° 39' N. lat. including the waters of the Chukchi Sea. This registration area is separated into the Pribilof and Northern Districts. The Northern District is further separated in two sections: the Norton Sound Section which includes all waters east of 168° West longitude and north of the latitude of Cape Romanzof, and the General Section which includes all waters not described in the Norton Sound Section.

Historic Background

The blue king crab fishery in the Pribilofs started in 1973 when vessels targeted on blue king crab stocks between St. George and St. Paul Islands during the summer months when the red king crab fishery was closed. The first reported catch was 1.2 million pounds taken by eight vessels between July and October. The crab averaged 7.3 pounds, and the catch per unit effort (CPUE) was 26, the highest CPUE for one fishery to date. Subsequently, CPUE has remained at about 9 crabs/pot until the last 3 years when the CPUE dropped to 3 crabs or less (Table 1). Due to low population estimates in this district, the red and blue king crab fishery has been closed since the 1988/89 season.

Pribilof District - 1992

The 1992 NMFS survey of the Pribilof Islands blue king crab was completed in July. The 1992 survey shows virtually no change from 1991 in the number of recruits and prerecruits or the total male crab population. This population is well below historic levels and remains depressed. The legal male abundance is estimated at 1.0 million crabs. The survey provided an estimate of 320,000 to 3,045,000 mature crabs with a mid-point level of 1,685,000 crabs. A removal of 20 percent of the mid-point level (377,000 crabs) could result in a harvest which exceeds the low end of the mature male population estimate.

With the increased number of vessels in the St. Matthew Island fishery, effort in this fishery would be very large and the ability to control the removal of the stocks would be limited. Further, inseason fishery performance information would not be available due to the anticipated short season. The fishery remains closed following review of the survey information and anticipated vessel effort levels. The department determined that the removal of mature males would be detrimental to both the red and blue king crab stocks.

St. Matthew - 1992

The St. Matthew season, scheduled to open on September 1, was delayed by emergency order until September 4 at 12:00 noon. The delay was due to problems with the ink setting up on the buoy stickers for this fishery. As the buoy stickers were not available to the fleet until August 10, the department felt that a delay would allow all participants adequate time to purchase and place stickers on their buoys.

Prior to the opening of the St. Matthew fishery, an Emergency Regulation was required to correct wording in the published regulation book to reflect Board of Fisheries intent that all pots and not just king crab pots were covered in the 100 pot limit for the Bering Sea king crab fisheries. Additional regulations were required to insure that vessels participating in fisheries governed by pot limits did not exceed the limit. This regulation covered in aggregate, pots on the vessel, pots in wet storage, and actively fished pots.

Originally, tank inspections were to be given only in Dutch Harbor, since that was where the buoy stickers were available. On August 19, after requests from industry, additional tank inspection locations were added at St. Paul and Akutan.

The NMFS survey indicated a blue king crab population almost identical to that in 1991. This equated to a 3.1 million pound preseason harvest guideline, plus or minus 1.2 million pounds.

A total of 174 vessels pre-registered and received buoy identification stickers. The total number of pots registered was 17,400, 4,300 more pots than were on the grounds in 1991 (Table 1). Based on the anticipated effort level a 60 hour fishing season was announced on September 3.

To accommodate industry's concerns of a potential under-harvest the department announced on September 4 that after all fish tickets were received, edited and reviewed, and if the harvest was well under the preseason harvest guideline, a reopening could be considered after adequate public notice was given. Preliminary reports after the fishery indicated the harvest would be well within the harvest range and another announcement was made on September 14 stating there would be no reopening.

As stated, the fishery lasted only 60 hours, the shortest season since 1989 which also lasted only 60 hours, (Table 5). Tank inspections were given to the 174 vessels at Dutch Harbor, Akutan and St. Paul. A total of 8 catcher processors and 166 catcher vessels registered for the fishery. Crab was delivered to seven floater processors and five catcher processors on the grounds and to shore based facilities in Dutch Harbor and St. Paul. Some floater processors moved to the Pribilof Islands several days after the closure to pick up vessels that had run to St. Paul to deliver but had a considerable waiting period to unload.

A total of 2.5 million pounds was harvested by the fleet with an average catch per pot of 10 crabs, half the rate of the previous season (Table 3). Near 20,000 more pot lifts occurred during the 1992 fishery than the previous season, with each vessel pulling their gear an average of three

times in 60 hours. The 1992 blue king crab harvest was worth $7.7 million to the fishermen at an average ex-vessel price of $3.00 per pound.

According to interviews, the stocks appeared to be concentrated in a few small areas and the majority of the fleet concentrated there on a first come, first set and haul basis (Table 6). Catch per vessel ranged from a few thousand crabs to over 11,000. Catcher processors averaged over 10,000 pounds more than the catcher only vessels (Table 7). Although all vessels fished the maximum of the 100 pot limit, it appears that more catcher processors "hit" the crab. Their average catch was higher than the large catcher only fleet. With the lower overall CPUE of the catcher-only vessels, the total projected harvest of 3.1 million pounds was not obtained.

The Fish and Wildlife protection vessel Wolstad was on the St. Matthew fishing grounds prior to, during and after the closure of the fishery. There were no violations of the pot limit regulations noted.

Stock Status

The St. Matthew blue king crab stocks appear to be stable, showing no increase in the legal population experienced during the 1991 survey. This population is still well below historic levels and should be managed as a depressed fishery.

Table 1. Historic blue king crab catch in the Pribilof district of the Bering Sea, Area Q.

Year	Vssls	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Average Length	Pounds Deadloss
1973/74	8	13	174,420	1,276,533	6,814	26	7.3	N/A	0
1974/75	70	101	908,072	7,107,294	45,518	20	7.8	157.8	0
1975/76	20	54	314,931	2,433,714	16,297	19	7.7	159.1	0
1976/77	47	113	855,505	6,611,084	71,738	12	7.7	158.1	0
1977/78	34	104	807,092	6,456,738	106,983	8	7.9	158.9	159,269
1978/79	58	154	797,364	6,395,512	101,117	8	8.1	159.3	63,140
1979/80	46	115	815,557	5,995,231	83,527	9	7.7	155.9	284,555
1980/81	110	258	1,497,101	10,970,346	167,684	9	7.3	155.7	287,285
1981/82	99	312	1,202,499	9,080,729	176,168	7	7.6	158.2	250,699
1982/83	122	281	587,908	4,405,353	127,728	5	7.5	159.8	51,703
1983/84	126	221	276,364	2,193,395	86,428	3	7.9	159.9	4,562
1984/85	16	25	40,427	306,699	15,147	3	7.6	155.45	0
1985/86	26	49	77,607	532,735	23,483	3	6.9	146.52	7,500
1986/87	16	25	36,988	258,939	15,800	2	7.0	N/A	5,450
1987/88	38	68	95,131	701,337	40,507	2	7.4	152.72	9,910
1988/89				S E A S O N C L O S E D					
1989/90				S E A S O N C L O S E D					
1990/91				S E A S O N C L O S E D					
1991/92[b]				S E A S O N C L O S E D					
1992/93				S E A S O N C L O S E D					

[a] Deadloss included.
[b] 10,869 pounds illegal red crab.

Table 2. Historic Bering Sea, Pribilof District blue king crab economic performance.

Year	GHL[a]	Season Total[a]	Number Pots Registered	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[b]	Season Length (Days)	Season Length Dates
1980/81	5-8	10.7	31,636	110	258	167,681	$ .90	$ 9.6	(60)	09/15-11/15
1981/82	5-8	9.1	25,408	99	312	176,168	$ 1.50	$13.6	(47)	09/10-10/28
1982/83	5-8	4.4	34,429	122	281	127,728	$ 3.05	$13.4	(15)	09/10-09/25
1983/84	4.0[c]	2.2	36,439	126	221	86,428	$ 3.00	$ 6.6	(10)	09/01-09/11
1984/85	.5-1.0	0.3	3,122	16	25	15,147	$ 2.50	$ 0.1	(15)	09/01-09/16
1985/86	.3-0.8	0.5	6,038	26	49	23,483	$ 2.90	$ 1.4	(26)	09/25-10/21
1986/87	.3-0.8	0.3	4,376	16	25	15,800	$ 4.05	$ 1.2	(55)	09/25-11/20
1987/88	.3-1.7	0.7	9,594	38	68	40,507	$ 4.00	$ 2.8	(86)	09/25-12/20
1988/89	NO COMMERCIAL FISHERY									
1989/90	NO COMMERCIAL FISHERY									
1990/91	NO COMMERCIAL FISHERY									
1991/92	NO COMMERCIAL FISHERY									
1992/93	NO COMMERCIAL FISHERY									

[a] Millions of pounds.
[b] Millions of dollars.
[c] Set not to exceed 4,000,000 pounds.

Table 3. Historic blue king crab catch in the Northern District of statistical Area 'Q' (St. Matthew and St. Lawrence Islands).

Year	Vssls	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Percent Oldshell	Avg. Wt.	Avg. Length	Pounds Deadloss
1977	10	24	281,665	1,202,066	17,370	16	7.0	4.3	130.4	129,148
1978	22	70	436,126	1,984,251	43,754	9	N/A	4.5	132.2	116,037
1979	18	25	52,966	210,819	9,877	5	80.8	4.0	128.8	56,147
1980				Confidential			N/A	4.7	N/A	
1981	31	119	1,045,619	4,627,761	58,550	18	N/A	4.4	N/A	53,355
1982	96	269	1,935,886	8,844,789	165,618	12	19.6	4.6	135.1	142,973
1983[b]	164	235	1,931,990	9,454,323	133,944	14	26.7	4.8	137.2	828,994
1983[c]	13	13	11,264	52,557	3,975	3	-	4.7	-	3,500
1984[b]	90	169	841,017	3,764,592	73,320	11	34	4.5	135.48	31,983
1984[c]			No Reported Landings							
1985[b]	79	103	484,836	2,427,110	51,606	9	9	5.0	138.98	2,613
1985[c]			No Reported Landings							
1986[b]	38	43	219,548	1,003,162	22,093	10	10	4.6	134.33	32,560
1986[c]			No Reported Landings							
1987[b]	61	62	234,521	1,075,179	28,440	8	5	4.6	134.13	400
1987[c]			No Reported Landings							
1988[b]	46	46	302,053	1,325,185	10,160	13	65	4.4	133.29	22,358
1988[c]			No Reported Landings							
1989[b]	69	69	247,641	1,166,258	30,853	8	9	4.7	134.55	3,754
1989[c]	5	9	1,652	4,518	2,402	-	-	-	-	0
1990[c]			No Reported Landings							
1990[b]	31	38	391,405	1,725,349	26,264	15	4	4.4	134.28	17,416

-Continued-

Table 3. (page 2 of 2)

Year	Vssls	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Percent Oldshell	Avg. Wt.	Avg. Length	Pounds Deadloss
1991[b]	68	69	726,519	3,372,066	37,104	20	12	4.6	134.1	216,459
1991[c]	No Reported Landings									
1992[b]	174	179	544,956	2,474,080	56,630	10	9	4.6	134.1	0
1992[c]	No Reported Landings									

[a] Deadloss included.
[b] St. Matthew
[c] St. Lawrence - red and blue

Table 4. Northern District, Area Q king crab harvest composition by fishing season.

Season	Opened	Closed	Species	Catch[a]	Size Limit	Price Per Lb.
1977	June 7	Aug. 16	Blue	1,202,066	5 1/2"	$ 1.00
			Red	543,041	5"	
1978	July 15	Sept. 3	Blue	1,984,251	5 1/2"	.95
	July 15	Aug. 16	Red	2,007,910	4 3/4"	
1979	July 15	Aug. 24	Blue	210,819	5 1/2"	.70
	July 15	Aug. 16	Red	3,024,228	4 3/4"	
1980	July 15	Sept. 3	Blue			.75
	July 15	July 31	Red[b]	353,683	4 3/4"	
1981	July 15	Aug. 21	Blue	4,627,761	5 1/2"	.90
	July 15	Sept. 3	Red[b]	63,983	4 3/4"	
1982	Aug. 1	Aug. 16	Blue	8,844,789	5 1/2"	2.00
	Aug. 1	Aug. 16	Red[b]	3,690	4 3/4"	2.00
	May 1	Aug. 1	Brown	193,507	5 1/2"	2.00
1983[c]	Aug. 20	Sept. 6	Blue	9,506,880	5 1/2"	3.00
	Aug. 20	Sept. 6	Red	1,635	4 3/4"	2.50
	May 1	Aug. 1	Brown		5 1/2"	-
1984	Aug. 1	Sept. 8	Blue	3,764,592	5 1/2"	1.75
	Aug. 1	Sept. 8	Red[b]	-	4 3/4"	-
	May 1	Dec. 31	Brown[c]	-	5 1/2"	-
1985	Sept. 1	Sept. 6	Blue	2,427,110	5 1/2"	1.60
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4"	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2"	-
1986	Sept. 1	Sept. 6	Blue	1,003,162	5 1/2"	3.20
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4"	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2"	-
1987	Sept. 1	Sept. 5	Blue	1,075,179	5 1/2"	$ 2.85
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4"	-
	Jan. 1	Dec. 31	Brown	424,394	5 1/2"	2.60
1988	Sept. 1	Sept. 5	Blue	1,325,185	5 1/2"	3.10
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4"	
	Jan. 1	Dec. 31	Brown	160,441	5 1/2"	3.10
1989	Sept. 1	Sept. 4	Blue	1,166,258	5 1/2"	2.90
			Blue	0[d]	5 1/2"	NA
	Aug. 1	Sept. 4	Red[b]	4,518	4 3/4"	-
	Jan. 1	Dec. 31	Brown	4,407	5 1/2"	NA
1990	Sept. 1	Sept. 7	Blue	1,725,349	5 1/2"	3.35
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2"	

-Continued-

Table 4. (page 2 of 2)

Season	Opened	Closed	Species	Catch[a]	Size Limit	Price Per Lb.
1991	Sept. 16	Sept. 20	Blue	3,372,066	5 1/2"	2.80
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2"	
1992	Sept. 4	Sept. 7	Blue	2,474,080	5 1/2"	3.00
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2"	

[a] Deadloss included.
[b] Does not include Norton Sound.
[c] Some of Northern District open until September 20.
[d] Combined with red king crab to total 4,518 lbs.

Table 5. Historic Bering Sea, Northern District (St. Matthew) blue king crab economic performance.

Year	GHL[a]	Season Total[a]	Number Pots Registered	Number Vessels	Number Landings	Number Pots Pulled	Ex-Vessel Value	Total Value[b]	Season Length (Days)	Season Length Dates
1981	1.5-3.0	4.6	2,960	31	119	58,550	$ .90	$ 4.1	(38)	07/15-08/21
1982	5.6	8.7	21,894	96	269	165,618	$ 2.00	$17.4	(15)	08/01-08/16
1983	8.0	8.6	38,000	164	235	133,944	$ 3.00	$25.8	(17)	08/20-09/06
1984	2-4	3.7	14,800	90	169	73,320	$ 1.75	$ 6.5	(7)	09/01-09/08
1985	0.9-1.9	2.4	13,000	79	103	51,606	$ 1.60	$ 3.8	(5)	09/01-09/06
1986	0.2-0.5	1.0	5,600	38	43	22,093	$ 3.20	$ 3.2	(5)	09/01-09/06
1987	0.6-1.3	1.1	9,370	61	62	28,440	$ 2.85	$ 3.1	(4)	09/01-09/05
1988	0.7-1.5	1.3	7,780	46	46	10,160	$ 3.10	$ 4.0	(4)	09/01-09/05
1989	1.7	1.2	11,983	69	69	30,853	$ 2.90	$ 3.5	(3)	09/01-09/4[c]
1990	1.9	1.7	6,000	31	38	26,264	$ 3.35	$ 5.7	(6)	09/01-09/07
1991	3.2	3.2	13,100	68	69	37,104	$ 2.80	$ 9.0	(4)	09/16-09/20
1992	3.1	2.5	14,700	174	79	56,630	$ 3.00	$ 7.4	(3)	09/04-09/7[c]

[a] Millions of pounds.
[b] Millions of dollars.
[c] Actual length - 60 hours.

Table 6. Bering Sea (Northern District) blue king crab catch by statistical area, for the 1992 season St. Matthew Island.

Stat Area	Lndgs	Crab[a]	Pounds[a]	Pots Lifted	Avg. Wt.	CPUE	Pounds Deadloss
726001	109	316,600	1,452,044	32,350	4.59	10	0
726002	25	57,742	257,600	6,652	4.46	9	0
736001	70	149,829	671,695	14,953	4.48	10	0
736032	4	2,924	12,504	400	4.28	7	0
Other	29	17,861	80,237	2,275	4.49	8	0
TOTAL	179[b]	544,956	2,474,080	56,630	4.54	10	0

[a] Deadloss included.
[b] Includes split landings.

Table 7. St. Matthew blue king crab comparative average catches of catcher/processor vs. catcher vessels.

	SEASONS				
	1992	1991	1990	1989	1988
Number of Catcher Processors	8	9	7	15	9
Number of Catchers	166	59	24	54	37
Pounds of C/P Catch	191,801	740,687	447,320	462,034	462,851
Percent of C/P Catch	7.7	22.0	25.9	39.6	34.9
Average C/P Catch	23,975	82,298	63,903	30,802	51,428
Average Catcher Catch	13,749	44,600	53,251	13,041	23,306
Average CPUE C/P's	16	26	15	11	16
Average CPUE Catchers	9	18	15	7	12
Total Catch	2,474,080	3,372,066	1,725,349	1,166,258	1,325,185
Average # Pots Pulled C/P's	327	682	983	618	706
Average # Pots Pulled Catcher	325	525	807	399	432
C/P Range Catch	5573- 51,943	41,812- 129,038	27,403- 111,507	16,744- 43,650	39,375- 71,170

Table 8. St. Matthew guideline harvest levels (GHL), GHL mid-points, actual harvests, and projected harvests.

Year	Guideline Harvest Levels [a]	GHL Mid-Point[a]	Actual Harvest	Projected Harvest[a]
1983	8.0	-	9,454,000	8.0
1984	2.0 - 4.0	3.0	3,764,000	4.0
1985	0.9 - 1.9	1.4	2,427,000	2.0
1986	0.2 - 0.5	0.3	1,003,000	1.0
1987	0.6 - 1.3	.95	1,075,000	1.3
1988	0.7 - 1.5	-	1,325,000	1.5
1989	1.7	-	1,166,000	1.7
1990	1.9	-	1,725,000	1.9
1991	3.2	-	3,372,000	3.2
1992	3.1	-	2,474,080	3.1

[a] Millions of pounds.

BERING SEA BROWN KING CRAB

1992 Permit Fishery - Pribilof and Northern Districts

The Pribilof and Northern districts each had one vessel registration for 1992. In each case the vessel made one trip of less than two weeks, caught few crab (harvest data is confidential), then returned to Dutch Harbor. Both vessels were catcher processors carrying an observer.

Stock Status

There are no population estimates made for Bering Sea brown king crab stocks. High catches in the early years of the fishery declined rapidly as the virgin stock was exploited and recruitment was insufficient to sustain the fishery.

Table 1. Historic brown king crab catch in the Pribilof District of the Bering Sea, Area 'Q'.

Year	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Average Length	Pounds Deadloss
1981/82	2	3	1,961	8,301	794	2	4.2	-	0
1982/83[b]	10	19	15,330	69,970	5,252	3	4.6	150.5	570
1983/84[c]	50	115	253,162	856,475	26,035	10	3.4	127.3	20,041
1984[d]	NO REPORTED LANDINGS								
1985	Confidential								
1986	Confidential								
1987	Confidential								
1988	Confidential								
1989	Confidential								
1990	NO REPORTED LANDINGS								
1991	Confidential								
1992	Confidential								

[a] Deadloss included
[b] Six and one-half inch season
[c] Five and one-half inch season
[d] Permit fishery July through December

Table 2. Historic brown king crab catch in the Northern District of the Bering Sea, Area Q.

Year	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Average Length	Pounds Deadloss
1982/83	22	30	51,714	193,507	7,825	6	3.7	138.2	957
1983/84	NO REPORTED LANDINGS								
1985	NO REPORTED LANDINGS								
1986	NO REPORTED LANDINGS								
1987	11	29	101,618	424,394	14,525	7	4.2	142.2	11,750
1988	11	23	36,270	160,441	11,672	3	4.4	150.2	14,000
1989	Confidential								
1990	NO REPORTED LANDINGS								
1991	NO REPORTED LANDINGS								
1992	Confidential								

[a] Deadloss included.

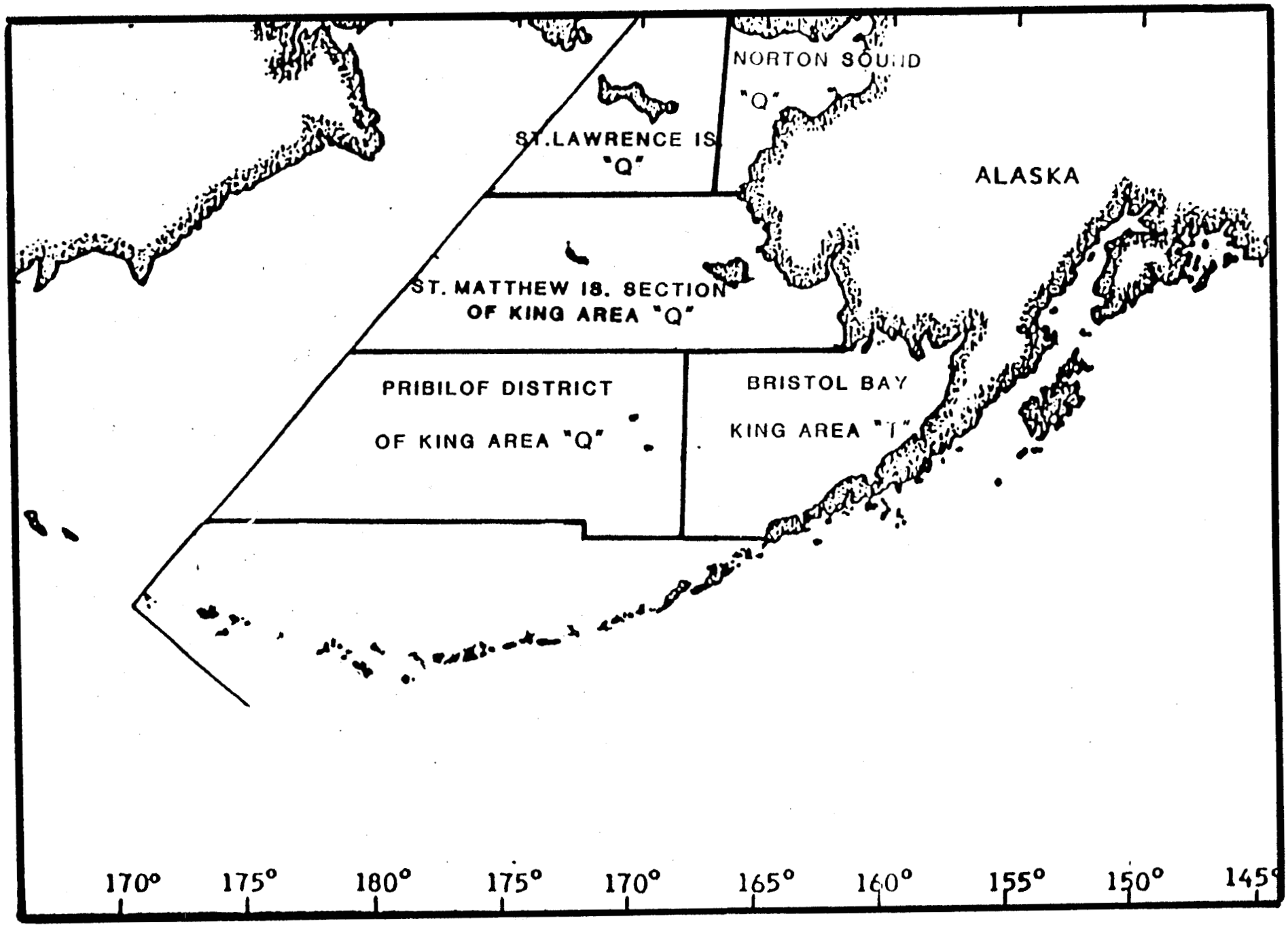

Figure 1. Bering Sea King Crab Statistical Area "Q".

BERING SEA KOREAN HAIR CRAB

Introduction

The Korean hair crab, *Erimacrus isenbeckii*, sold as "kegani" by the Japanese, was fished commercially for the first time by the U.S. fleet in 1979. When interest was first expressed by fishermen and processors in this species, the season was opened by emergency order and ran concurrently with the Tanner crab fishery. During the 1980 Board of Fisheries meeting, a year long season was established under the terms of a permit issued by the Alaska Department of Fish and Game.

1992 Fishery

Increased interest has been expressed in fishing hair crab the past two years. This is due to short seasons in other crab fisheries, a rebounding hair crab population, a high price and good catches.

Ten vessels registered for the Bering Sea hair crab fishery in the spring of 1992. Deliveries began arriving in Dutch Harbor and St. Paul in mid-May. By late May it became obvious a problem was developing with soft-shell crabs. There were reports of sorting 50 percent soft-shell crab from the catch, and vessels delivering to Dutch Harbor were experiencing dead loss as high as 21 percent. On June 1 an emergency order was issued closing the Bering Sea hair crab fishery effective June 4 due to a high incidence of molting crabs.

Results from the annual National Marine Fisheries Service (NMFS) summer trawl survey of the eastern Bering Sea indicated a male hair crab population of 3.5 million pounds ($\pm$ 43%). This is a 39% decrease in abundance from the 1991 survey. This biomass was distributed equally east and west of 168° W. long.

The Bering Sea reopened to hair crab fishing on October 1. Interest was expressed in this fishery by many boats. However, a new permit restriction on gear type was implemented that eliminated many vessels from the fishery due to a lack of acceptable pots. Traditional hair crab pots were the only approved gear. King crab pots were excluded due to excessive bycatch and mortality problems associated with the gear. Fishing was good with a CPUE of nine. On October 27 an emergency order was issued closing the Bering Sea hair crab fishery effective November 1. The catch was projected to be 1.2 million pounds, all coming from around the Pribilof Islands.

The fishing was still good at the closure with a consistent CPUE throughout the season. The biomass in this area was estimated to be 50% of the entire Bering Sea biomass, or 1.75 million pounds ($\pm$ .75 million pounds). An exploitation rate was estimated at 50%. The area east of 168° W. long. was not fished in 1992.

Table 1. Historic Korean hair crab catch statistics, by season, for the Bering Sea.

Year	Vessels	Landings	Crab[a]	Pounds[a]	Pots Lifted	CPUE	Avg. Wt.	Average Length	Pounds Deadloss
1978-79	11	16	2,457	5,213	9,908	1	2.1	111.8	0
1979-80	9	17	25,417	53,914	14,506	2	2.1	114.5	0
1980-81	67	192	1,127,309	2,439,483	172,695	7	2.2	104.8	265,369
1981-82	48	159	466,560	932,584	117,518	4	2.0	103.1	29,749
1982-83	52	161	575,453	1,211,420	84,346	7	2.1	103.2	122,456
1983-84	19	48	200,670	406,538	20,414	10	2.0	NA	28,062
1984[b]	7	26	197,209	396,630	22,392	9	2.0	NA	19,436
1985[b]				C O N F I D E N T I A L					
1986[b]				C O N F I D E N T I A L					
1987[b]				C O N F I D E N T I A L					
1988[b]			N	O F F I S H I N G					
1989[b]			N	O F F I S H I N G					
1990[b]			N	O F F I S H I N G					
1991[b]	7	42	441,533	377,708	44,444	10	0.9	NA	0
1992[c]	9	20	203,758	240,767	38,808	5	1.2	NA	0
1992[d]	10	47	1,127,948	1,198,590	125,943	9	1.1	84.5	65,674

[a] Deadloss included.
[b] Permit fishery.
[c] Spring fishery.
[d] Fall fishery.

BERING SEA MISCELLANEOUS SHELLFISH

Octopus

Seven vessels registered to retain octopus as bycatch taken incidentally in directed pot fisheries for cod or crab in 1992. There were two reported landings; catch data is confidential.

Reported octopus bycatch taken in the various trawl fisheries was 39,526 pounds. The catch is felt to be substantially underreported as discard information from the domestic groundfish fishery is not tallied from federal waters. Also, crab fishermen are not required to report their octopus catch.

Snails

Two vessels registered to fish snails in the Bering Sea in 1992; one vessel as bycatch in the Tanner crab fishery and the second vessel as a directed fishery after the June closure of the hair crab fishery. Catch data is confidential.

Reported bycatch in the trawl fisheries is 23,042 pounds. Discard from federal waters is not included.

Squid

The reported squid harvest in the Bering Sea is all bycatch to the various trawl fisheries. The reported catch for 1992 is 753,899 pounds. The harvest is felt to be substantially underreported as again discard information from federal waters is not included.

ANNUAL MANAGEMENT REPORT FOR THE BERING SEA KING AND TANNER CRAB BUOY IDENTIFICATION STICKER PROGRAM, 1992

BY

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April 1993

BERING SEA KING AND TANNER CRAB
BUOY IDENTIFICATION STICKER
SUMMARY REPORT

Introduction and Background

The Alaska Board of Fisheries met in early 1992 to discuss gear limitations for Bering Sea/Aleutian Islands king and Tanner crab fisheries. The board had generated an agenda change request on March 20, 1991 to hear this issue out of cycle and in response to a request submitted by the industry. This request was supported with preliminary Alaska Department of Fish and Game data that indicated the high levels of gear deployed in these fisheries were creating conservation and management difficulties.

The board considered reports, presentations, and testimonies from state and federal bottomfish and shellfish biologists, the state attorney general's office, Fish and Wildlife Protection, industry representatives, organizations, advisory committees, and over 30 individuals. Notable was a nine member committee whose composition represented large and small vessel owners and operators, processors and catcher processors. As the board weighed alternatives for management, this industry group was able to comment, respond, and make recommendations. It is noteworthy that the board took no action on issues or fisheries that were substantially advised against by this group.

During this shellfish meeting, the board limited the number of pots that a vessel may use when harvesting king and Tanner crab in the Bering Sea fisheries and became effective on August 1, 1992. Through statute the entire program was to be self supporting through sales of the buoy identification stickers.

Season limits of 100 pots per registered vessel were established for the Norton Sound red king crab, Pribilof Islands blue and red king crab, and St. Matthew blue king crab fisheries. Season limits of 250 pots per registered vessel were established for the Bristol Bay red king crab, and Bering Sea Tanner crab (*C. bairdi* and *C. opilio*) fisheries. The same buoy stickers were to be used for the Bristol Bay red king crab and the Bering Sea Tanner crab fisheries.

Implementation

The Department sent out an invitation to bid on May 8, 1992 for the purchase of specific brand buoy stickers for the Department of Fish and Game, Dutch Harbor, Alaska to be delivered to Dutch Harbor prior to July 15, 1992. Additional office space was also acquired, and a Fish and Wildlife Technician III was hired to administer the program and issue the stickers. According to **AS 16.05.050 POWERS AND DUTIES OF THE COMMISSIONER.**

The commissioner has,. . .The following powers and duties: (16) ... to establish and charge fees equal to the cost of services provided by the department...

and **AS 16.05.632 IDENTIFICATION OF SHELLFISH POTS OR BUOYS, OR BOTH, USED IN THE TAKING OF KING CRAB AND REQUIREMENTS FOR BUOYS.**

(a) Registration tags for the identification of shell fish pots or buoys, or both, used in the taking of king crab are required in areas in which the board has regulations limiting the total amount of shellfish pots allowed per vessel. Registration tags shall (6) be issued and renewed for a fee equal to the cost of obtaining the registration tags plus reasonable administrative costs, under procedures determined to be appropriate by the Department of Fish and Game.

For the 1992/93 Bering Sea crab fisheries with a limit of 100 pots a total of 10,000 silver sequentially numbered stickers packaged in units of 100 were printed. Sticker numbers started at 001001 and ran through 100100. The replacement stickers for these were yellow and consecutively numbered 001-400. For those Bering Sea crab fisheries with a pot limit of 250 pots, a total of 80,000 red colored stickers packaged in units of 250 were printed with sequential numbers 001001 through 320250. The replacement stickers for these were green in color and consecutively numbered 001-15,000.

Replacement Stickers

The board considered non-replacement of lost pots and double sticker requirements and found that the hardship to the industry by not providing some replacement program would be unnecessarily burdensome. The Division of Fish and Wildlife Protection stated that they might experience difficulty proving cases if replacement pots were allowed. Special conditions regarding replacement were included in the regulations to accommodate the concerns of Fish and Wildlife Protection, but the board rejected a double sticker requirement.

The replacement of lost tags is permitted by **5 AAC 34.825.**(f), **5 AAC 34.925.**(j), and **5 AAC 35.525.**(i)

(4) ...replacement of lost identification tags is permitted if the vessel operator and three crew members, in person, submit to the ADF&G office in Dutch Harbor, a sworn statement or affidavit, describing how the tags were lost and listing the numbers of the lost tags.

An official AFFIDAVIT TO OBTAIN REPLACEMENT BUOY IDENTIFICATION STICKERS was reviewed and approved by Fish and Wildlife Protection (Figure 1). The affidavit is a statement of the sticker loss to be signed by the vessel operator (permit holder) and three crew members. The signatures are witnessed by a department representative and/or notary.

Numerous complaints were received by the Dutch Harbor office regarding the problems that vessels delivering to remote areas such as King Cove and St. Paul would have in replacing stickers under the current regulations. Most felt the cost in time and/or money used to transport the permit holder and three crew members to Dutch Harbor to fill out required affidavits and purchase the replacement stickers was prohibitive. Some expressed feelings that the present requirement would force them to fish illegally rather than conform to the regulations.

Six replacement stickers were issued to three vessels prior to the St. Matthew season and thirteen replacement stickers were issued to six vessels before the Bristol Bay season, (Table 1). The replacements were necessary due to stickers being misplaced, lost or damaged during the process of applying them to buoys.

Administration of the 1992/93 Buoy Identification Program

The Bering Sea buoy identification stickers were issued from the Dutch Harbor ADF&G office and in limited amounts out of the Kodiak office. An administrative fee of $2.00 per buoy sticker was charged. Stickers were issued only if a valid permit card for the specified fishery had been issued to the fishermen purchasing the stickers. Each uniquely numbered package of stickers was assigned to a vessel ADF&G number which guaranteed only one set of stickers per vessel. Issuing the stickers entailed receiving and depositing sticker sale revenues in the form of checks, money orders, and cash, then entering registration data and buoy ID sticker assignments into the computer database. The program printed out a completed registration form which was given to the permit holder and had to be available on the boat at the time of tank check. A copy of each registration form is also kept on file in the office for reference.

In cases where the permit holder wanted his/her stickers sent through the mail or an agent to receive the stickers, an affidavit to obtain pot buoy stickers was available in the Dutch Harbor and Kodiak offices. These affidavits were sent through FAX transmission or U.S. mail to the permit holder who then completed and returned it to the office. Upon receipt, stickers, along with a preregistration form, a buoy sticker log, and pertinent department press releases were sent out daily by U.S. mail, return receipt. Return receipt provided the department with a signature of the person delivered to, and date of delivery.

If a permit holder wished to have stickers expedited beyond normal mailing they provided a prepaid, self addressed 2 pound express mail envelope. Issuing stickers through regular mail stopped approximately 3 weeks prior to openings and express mail 1 1/2 weeks prior to the openings. This allowed ample time to receive the stickers due to problems involved with Dutch Harbor's location and weather.

The Dutch Harbor office mailed a total of 6 packages of buoy stickers for the St. Matthew fishery and a total 18 packages for the Bristol Bay fishery. Some of the packages contained sticker packets and preregistrations for up to six vessels whose skipper/permit holders ordered stickers through their processor or company. Many of the sticker packets were picked up in the Dutch Harbor office by expediters who then sent them out via express mail or other express means.

Fishery Sales and Registrations

The Norton Sound red king crab fishery was the first fishery prosecuted under the new pot limit regulations. A total of 14 vessels purchased buoy ID stickers and registered for the season in Dutch Harbor. Four of the vessels were catcher-processors. Since stickers had not yet been received for the fishery, old Kodiak stickers were used. There was no charge to the fleet for these first stickers issued.

Due to the unusually high number of vessels that registered and purchased buoy ID stickers for the St. Matthew blue king crab season, the number of stickers ordered (only 100) was not enough to meet the demand (Table 1). As a result, old and outdated stickers sent from Kodiak were issued to the last 74 vessels that registered. Fortunately the older stickers were also silver in color, of the same dimensions, packaged in units of 100, and the number sequences incorporated favorably with the new stickers. A total of 174 vessels purchased buoy ID stickers and preregistered for the St. Matthew blue king crab season, 12 of these were catcher-processors (Table 1).

Bristol Bay red king crab sticker sales and preregistrations totaled 289 with 17 of these vessels being catcher-processors. Not all of these vessels actually participated in the fishery, but purchased stickers with the idea of later participating in the Bering Sea Tanner crab fisheries which had the same pot limit as the Bristol Bay red king crab fishery (Table 1).

Temporary Suspension of Buoy ID Sticker Requirements

The department began receiving complaints about failing stickers on opening day of the Bristol Bay red king crab season. Following the closure and return of the fleet a survey was conducted asking for information regarding their buoy sticker application procedures (Table 2).

As well as coming completely off the buoy, stickers began to delaminate between the colored plastic layer and the adhesive layer. The printed layer with the identification numbers separated from the adhesive layer after extended exposure to water and weather. This resulted in many buoys left only with a patch of adhesive but no identification numbers. In cases where a sealant such as silicon was applied around the edge of each sticker, the losses were less extensive (Table 2).

After discussions with the staff, the commissioner, Fish and Wildlife Protection, and the Board of Fisheries, the following news release was issued on November 10,1992.

> "Due to the problems encountered with the buoy stickers during the Bristol Bay king crab season, the Department is suspending the buoy ID sticker requirements until such time as a buoy sticker is developed that withstands the fishing conditions and meets the State's requirements.

Fishermen are reminded that the 250 pot limit for the Bering Sea Tanner crab fisheries is still in effect.

The suspension of the buoy identification sticker requirements is only for the 1992/93 fishing season and is NOT associated with or because of the pending pot limit appeal being considered by the National Marine Fisheries Service."

On November 30, 1992 National Marine Fisheries Service officially repealed the Bering Sea pot limits due to inconsistencies with the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan.

Table 1. Number of buoy stickers printed and issued by fishery.

Fishery	No. Stickers Printed	No. Stickers (Replacement) Printed	No. Vessels Preregistered	No. Stickers Issued	No. Stickers (Replacement) Issued
Norton Sound Red King Crab (100 Pot Limit)	none[a]	none[a]	14	1,400	0
St. Matthew Blue King Crab (100 Pot Limit)	10,000	400	174	17,400[b]	6
Bristol Bay Red King Crab (250 Pot Limit)	80,000	15,000	289	69,900[c]	13
Total	90,000	15,400	477[d]	88,700	19

[a] Outdated stickers from Kodiak were issued for this fishery as the sticker bid had not yet been let.
[b] A total of 74 sets of outdated stickers from Kodiak were issued as the number of vessel registered for the fishery exceeded the number of sticker packets ordered for the fishery.
[c] Not all vessels purchased the full compliment of 250 stickers allowed for the fishery.
[d] Not individual vessels.

Table 2. Post 1992\93 Bristol Bay buoy identification sticker survey[a].

Buoy Preparations	No. Of Pots	No. Pots In Wet Storage	No. Stickers Peeled Off	No. Stickers Delaminated
Acetone	1,494	250 (17%)	103 (7%)	11 (7%)
M E K[b]	940	250 (27%)	32 (3%)	77 (8%)
Solvent and Sealed Edges	1,422	672 (47%)	10 (.7%)	50 (4%)
Solvent and Torch Heat	2,244	600 (27%)	268 (12%)	386 (17%)
Dry Rag	420	0	11 (3%)	0
Dry Rag and Torch Heat	450	200 (44%)	0	3 (.6%)
Other	1,275	66 (5%)	15 (1%)	324 (25%)
Totals	8,244	2,038 (25%)	439 (5%)	851 (10%)
			Total lost	1,290 (16%)

[a] Results of interviews with 36 vessels out of 281 that fished Bristol Bay red king crab immediately after the 1992 season. Survey conducted Nov. 9-14, 1992.
[b] Methyl ethyl ketone.

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

ALASKA DEPARTMENT OF FISH AND GAME

PO BOX 305
DUTCH HARBOR, AK 99692-0305
PHONE (907) 581-1239
(907) 581-1239

AFFIDAVIT TO OBTAIN REPLACEMENT BUOY IDENTIFICATION STICKERS

NAME_____

CURRENT MAILING ADDRESS_____

_____

VESSEL_____

NUMBERS ON LOST STICKERS_____

_____

STATEMENT EXPLAINING HOW STICKERS WERE LOST:_____

_____

_____

WE HEREBY SWEAR THAT ALL THE ABOVE INFORMATION IS TRUE AND CORRECT AND WE UNDERSTAND THAT MAKING A FALSE SWORN STATEMENT OR AFFIDAVIT IS A CLASS B FELONY PUNISHABLE BY A FINE OF NO MORE THAN $50,000.00 AND TEN YEARS IN PRISON.

SIGNATURE OF PERMITTEE	PRINTED NAME	PERMIT NUMBER
SIGNATURE OF CREW MEMBER	PRINTED NAME	SS# & DOB
SIGNATURE OF CREW MEMBER	PRINTED NAME	SS# & DOB
SIGNATURE OF CREW MEMBER	PRINTED NAME	SS# & DOB

REPLACEMENT STICKER NUMBERS:_____

$_____ HOW PAID:_____

_____
NOTARY OR DEPARTMENTAL REPRESENTATIVE

_____
DATE AND LOCATION

Figure 1. Affidavit to obtain replacement buoy identification stickers.

ANNUAL MANAGEMENT REPORT FOR THE MANDATORY SHELLFISH OBSERVER PROGRAM, 1992

BY

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February 1994

INTRODUCTION

In April 1988 the Alaska Board of Fisheries adopted regulations requiring onboard observers on all vessels which processed king crab and *C. bairdi* Tanner crabs in waters of Alaska. This action was prompted by Alaska Department of Fish and Game (ADF&G) staff reports which suggested illegal processing of undersize and female crab by at sea processors, based on consistently higher production rates of catcher processors compared to catcher only vessels. These regulations resulted in creation of the Mandatory Shellfish Observer Program which first deployed observers in the September 1988 Bristol Bay red king crab fishery. Primary goals of the program were to determine the legality of the landed and processed product, collect shell size, age and condition information from delivered product and to collect bycatch data from the pots being fished.

Although regulations dealing with the observer program were intended to apply statewide, activity has focused on crab fisheries in the Bering Sea and Aleutian Islands, where essentially all at sea processing of crab occurs. Regulations require all observer activity for a fishery be handled in the management area of that fishery, consequently most observer activity is handled by ADF&G observer program staff in Dutch Harbor.

In spring of 1990 the Alaska Board of Fisheries adopted regulations which broadened mandatory observer coverage to include those vessels processing *C. opilio* crab. These changes were made due to reports of undersized *C. bairdi* crab being processed as *C. opilio*. At that time the board also more narrowly defined observer qualification standards, observer and contractor conflict of interest standards and observer duties and responsibilities. In the fall of 1991 the Board adopted new regulations concerning observer certification and decertification.

OBSERVER PROGRAM GUIDELINES

Observer Program guidelines were originally defined and remain in regulation. A flow diagram showing program structure is presented in Figure 1. According to regulation, costs of observers are borne by industry, with vessels hiring observers directly through third party contractors.

Contractors

Contractors are required to hire, train and provide all observer logistical support including food, accommodations, sampling equipment, travel to and from vessels, and to and from ADF&G briefings and debriefings conducted within the management area of the fishery. Contractors secure contracts directly with vessel owners/operators, and deploy observers.

ADF&G

The Alaska Department of Fish and Game is responsible for establishing observer qualification and conflict of interest standards and sampling procedures. ADF&G is also charged with review and approval of observer training programs, observer testing, certification (and decertification), briefing, debriefing, analysis of observer data and program progress reports.

Observer

Current observer qualifications include a minimum of a Bachelor of Science degree in the Natural Sciences or prior experience as a National Marine Fisheries Service observer.

Observers are required to undergo ADF&G approved training and pass a written and practical certification exam administered by Observer Program staff in Dutch Harbor. Observers may not have a financial interest in the observed fishery or assigned vessel. Observers are limited to no more than 90 days duty on a specific vessel in any 12 month period. Observers who are inactive for more than 12 consecutive months loose their certification, but may become recertified by retraining and reexamination.

Fishing year

Tracking of observer and vessel activity begins at the onset of the St. Matthew blue and Dutch Harbor brown king crab fisheries which normally begin on September 1. Tracking continues through completion of the *C. opilio* fishery the following Spring. As a result, observer and vessel activity is reported by fishing year. A fishing year which begins in September of 1991 and ends in August 1992 is thus designated as the 1991/92 fishing year or fishing season.

Observer deployment is tracked by observer days on board a vessel and then converted to observer months. One observer month is the equivalent of 30 observer days.

FISHERIES REVIEW

Vessel Effort and Observer Coverage

During the 1991/92 season (September 1, 1991 through August 31, 1992) shellfish observers made 246 trips and logged 297 observer months at sea. This is a slight decrease from the 1990-91 season when observers made 273 trips and logged 343 observer months at sea (Table 1).

The decline in number of observer trips, observer deployments and observer months during the 1991/92 season was due to a relatively short *C. opilio* fishery in the Bering Sea. Concentrated effort in the Eastern Bering Sea resulted in high catch rates and a season closure two months earlier than the 1990/91 season. Tables 2, 3 and 4 summarize vessel trips and observer activity, by fishery, for the 1990/91, 1991/92 and 1992/93 seasons, respectively.

Observer activity, as indicated by number of briefings and debriefings, increased dramatically in 1990/91 and 1991/92 over levels observed for the first two years of the Observer Program. This increase, illustrated in Figure 2, was due in part to additional observer coverage required for the Bering Sea *C. opilio* fishery which began in January of 1991 (1990/91 fishing year). An increase in the number of processing vessels, from 40 (24 catcher processors and 16 floating processors) at the beginning of the 1990/91 season to 51 (33 catcher processors and 18 floating processors) by the end of the 1991/92 season also contributed to increased demands for observers.

St. Matthew Blue King

During the 1990/91 season observers manned 10 processing vessels and logged 4.2 observer months at sea. This accounted for 1.2 percent of total observer months and 3.7 percent of total observer trips for the 1990/91 season.

For the 1991/92 season observers logged 5.3 observer months on 11 processing vessels. This accounted for 1.8 percent of total observer months and 4.5 percent of total observer trips during the 1991/92 season.

During the 1992/93 season observers manned 15 processing vessels (8 catcher processors and seven floating processors) and logged 5.8 observer months during 15 observer trips.

Dutch Harbor Brown King

During the 1990/91 season observers manned six processing vessels and logged 7.4 observer months during six observer trips. This accounted for 2.2 percent of total observer months and 2.2 percent of total observer trips for the 1990/91 season.

For the 1991/92 fishery observers logged 7.3 observer months on four catcher processors, which accounted for 2.5 percent of total observer months and 1.6 percent of observer trips for the season.

In the 1992/93 Dutch Harbor brown crab fishery observers manned five catcher processors and logged 7.2 observer months during six observer trips.

Bristol Bay Red King

During the 1990/91 season observers made 35 trips aboard 35 processing vessels and logged 19.6 observer months at sea. This accounted for 5.7 percent of total observer months at sea and 12.8 percent of the total observer trips for the 1990/91 season.

For the Bristol Bay red king crab fishery which occurred in the fall of 1991 (1991/92 season) observers manned 39 processing vessels and logged 19.8 observer months at sea. This accounted for 6.7 percent of total observer months and 15.9 percent of the total observer trips for the 1991/92 season.

During the 1992/93 season (November 1992) observers logged 10.6 observer months aboard 23 processing vessels (17 catcher processors and six floating processors) during 24 observer trips. Catcher processor participation in this fishery declined approximately 40 percent from the previous season due to U.S. catcher processor participation in crab fisheries in Russian waters off the former Soviet Union.

Adak Brown King

During the 1990/91 season observers manned eight catcher processors and logged 32.5 observer months during 21 observer trips. This accounted for nine percent of total observer months and 7.7 percent of total observer trips for the 1990/91 fishing year.

For the 1991/92 season observers made 25 observer trips aboard nine catcher processors and logged 38.8 observer months at sea. This accounted for 13 percent of the total observer months and 10.2 percent of the total observer trips for the 1991/92 season.

During the 1992/93 season, through December 15, observers manned three processing vessels and logged 2.4 observer months during three observer trips.

Bering Sea Bairdi

Shellfish observers in the 1990/91 Bering Sea *C. bairdi* fishery manned 37 processing vessels and logged 50.2 observer months during 42 observer trips. This accounted for 14.7 percent of the total observer months and 15.4 percent of the total observer trips for the 1990/91 season.

During the 1991/92 season observers made 51 observer trips on 39 processing vessels and logged 64.5 observer months at sea. This accounted for 21.7 percent of the total observer months and 20.7 percent of total observer trips for the 1991/92 season.

For the 1992/93 season (through December 15) observers manned 26 processing vessels (17 catcher processors and nine floating processors) and logged 19.8 observer months during 27 observer trips.

Bering Sea Opilio

Mandatory observer coverage was required for the first time in the Bering Sea *C. opilio* fishery during the 1990/91 season. During that time observers made 155 trips aboard 44 processing vessels (26 catcher processors and 18 floating processors) and logged 226 observer months at sea. This accounted for 56.8 percent of total observer trips and 66 percent of total observer months for the 1990/91 fishing year.

During the 1991/92 season 49 processing vessels (31 catcher processors and 18 floating processors) were manned by observers who logged 159 observer months during 107 observer trips. This accounted for 53.4 percent of total observer months and 43.5 percent of total observer trips for the 1991/92 season.

Miscellaneous Shellfish

During the 1990/91 season observers manned one catcher processor for Bering Sea scallops and logged 4.6 observer months during four observer trips. This accounted for 1.2 percent of total observer trips and 1.5 percent of total observer months for the 1990/91 season.

For the 1991/92 season several miscellaneous fisheries required onboard shellfish observers. In the Bering Sea, observers logged 0.5 months on one catcher processor fishing scallops, and a total of 1.2 months aboard two catcher processors fishing brown king crab. In the Norton Sound red king crab fishery five observers logged 0.9 observer months during five observer trips. In the St. Lawrence blue king fishery 0.2 observer months were logged during one observer trip. All miscellaneous fisheries combined accounted for 0.9 percent of the total observer months at sea and 3.7 percent of the total observer trips for the 1991/92 season.

During the 1992/93 season observers manned one catcher processor for Bering Sea Korean Hair crab and logged 0.6 observer months during one observer trip.

OBSERVER PROGRAM ACTIVITY

Observer Briefing and Debriefing Activity

During the 1991/92 fishing year Observer Program staff in Dutch Harbor conducted 259 observer briefings and 333 debriefings (includes mid- trip debriefings). This is only slightly less than the 271 briefings and 339 debriefings that occurred during the 1990/91 fishing year (Figure 2).

Briefing, debriefing and mid trip debriefing activity normally remains high throughout the fall, winter and spring months corresponding to commercial crab fishing seasons in the Bering Sea and Aleutian Islands area. The number of briefings, debriefings and mid-trip debriefings by month for the 1991/92 fishing year is presented in Figure 3. A monthly summary of observer briefing, debriefing and mid trip debriefing sessions for September 1990 through December 15, 1992 is presented in Table 5.

Observer Exams, Certification and Decertification

During 1991 four observer certification exams were given by Observer Program staff in Dutch Harbor. Of the 67 candidates tested, 59 successfully passed the written and practical portions of the exam and were given probationary certification.

In 1992 two observer certification exams were given with 39 of 41 candidates successfully passing both the written and practical portions of the exam.

In 1990, 27 of 32 candidates successfully passed the certification exam, while in 1989, 46 of 53 candidates passed and became certified. In 1988 only 82, of 95 candidates which tested, passed the exam and were certified.

Since inception of the Observer Program in 1988 a total of 250 observers have been certified. Of these, 119 have been decertified due to inactivity in 12 continuous months. An additional 19 observers have been decertified for failure to comply with Observer Program standards. Through November 1992, 112 observers remain certified. Table 6 summarizes Observer Program certification exams dates, number of observers tested, certified and decertified from 1988 to present.

Observer Data and Evidence Collection

Physical and/or photographic evidence was collected by observers on 46 of the 246 observer trips conducted in the 1991/92 fishing year. This represents evidence collection on 18.8 percent of all observer trips for the season. Thus far in the 1992/93 fishing year evidence has been collected

on approximately 22 percent of observer trips completed through mid December. Observer evidence collected during the 1991/92 fishing year and for completed fisheries of the 1992/93 fishing year are summarized in Table 7 and Figure 4.

The two fisheries where most observer evidence was collected during the 1991/92 season was the *C. bairdi* and *C. opilio* fisheries in the Bering Sea. In the *C. bairdi* fishery evidence was collected on 12 of 51 trips, accounting for 26 percent of evidence collected. In the *C. opilio* fishery evidence was collected on 18 of the 107 trips. Together these two fisheries accounted for approximately 65 percent of all evidence collected during the 1991/92 season.

In the Bristol Bay red king crab fishery evidence was collected on 8 of the 39 observer trips, accounting for 17 percent of observer collected evidence for 1991/92 season. During the 1992 Bristol Bay red king crab fishery (1992/93 season) evidence was collected on 8 of 24 observer trips.

PROBLEMS WITH THE OBSERVER PROGRAM

Many problems that arose during the early years of the Observer Program have been resolved through tightening of regulations and better cooperation between industry, observer contractors, observers and ADF&G. However, some problems continue to plague the program.

Industry/Vessels

The greatest problems with industry center around the current structure of the Observer Program and the resulting pressure vessel owners and operators can exert on contractors and observers to circumvent program regulations. Current regulations require contractors to make observer vessel assignments. While regulations do not allow vessels to make requests for specific observers, nothing in regulation prohibits a vessel from refusing to accept a specific observer. Consequently, an observer who collects evidence on a vessel, or gains a reputation for refusing to allow illegal activity on board his or her assigned vessel, can be denied assignments or "black listed".

Contractors

The current program structure has the potential to place tremendous pressure on contractors. In the interest of maintaining vessel contracts, decisions made by the contractor, including observer vessel assignments, may be affected by demands of the contracting vessels or companies. This is in violation of current regulations and allows vessels indirect control over observer placement. Under the current observer contracting and deployment system, an observer willing to allow

illegal activities on board their assigned vessel creates fewer problems for that vessel and consequently that vessel's contractor.

Observers

Once again, program structure places the observer in a position of potential compromise between requirements of ADF&G (which includes documenting illegal activities and collecting evidence) and possible pressure from the vessel to overlook violations in order that the observer not be denied access to the vessel on future assignments. These pressures can come from the vessel or the contractor, as mentioned above.

An additional problem concerning observers is a growing trend toward cross-over employment as crew members on commercial crabbing vessels. Current conflict of interest regulations only prohibit certified observers from duty on vessels for which they have a vested interest. Some observers, immediately upon completion of an observer trip aboard a vessel, are returning to that same vessel as a paid crew member. This situation raises serious questions about observer conduct (what he or she might have been willing to over look in order to gain employment on the vessel).

Additional problems can occur when observers, immediately after debriefing, go to work as a paid crewman on vessels other than the assigned vessel. In this case it is questionable whether a recently debriefed observer, exposed to highly confidential fishing information on the assigned vessel (catch rates and exact fishing locations etc.), should be allowed free participation as a paid crew member on another vessel where such privileged information could be inappropriately used.

Also in question is an individual's ability to be an objective observer immediately after working as a paid crew member on a commercial vessel.

SUMMARY

Observer Program activity increased dramatically in 1990/91, due mostly to the additional coverage required for the Bering Sea *C. opilio* fishery and an increased number of processing vessels. This increase occurred both in observer activity (number of trips and observer months at sea) and Observer Program activity (briefing, debriefing etc). Observer Program activity declined only slightly for the 1991/92 fishing year.

With the exception of a small red king crab fishery in Norton Sound, Observer Program activity in 1992 was limited to that which occurred from the ADF&G office in Dutch Harbor.

During the 1991 calendar year four observer certification exams were given and 61 observers were certified. During this time 73 observers were taken out of active observer status for failure to make an observer trip in 12 consecutive months.

During 1992 two observer certifications exams were given with 39 of 41 observers passing and being certified. Also in 1992, 36 observers were decertified for inactivity in 12 months.

Since the program began in 1988, 119 observers have been decertified for inactivity in 12 months and an additional 19 observers for failing to adhere to programs standards.

Observers collected evidence (physical and or photographic) on 18.7 percent of all observer trips during the 1991/92 fishing year. The largest portion came from the Bering Sea *C. opilio* fishery where 39 percent of all evidence was collected.

Problems with the Observer Program continue to center around the third party contractor system of obtaining and deploying observers. Many of the problems dealing with observer placement could be minimized if observer deployment was controlled by ADF&G and contractors were not forced to relay on payment for observer services directly from vessel owners.

Table 1. Summary of vessels, vessel registrations, observer trips, observer months, number of active observers and contractors, and numbers of briefings and debriefings from program inception through December 15, 1992.

Fishing Year[a]	Vessels[b]		Registrations[c]		Observer Trips	Active Observers	Obs Months	Active Contractors	Total	
	C/P	F/P	C/P	F/P					Brief[d]	Debrief
1988/89	22	8	85	52	89	56	96.1	8	112	89
1989/90	24	16	68	53	128	59	152.0	7	112	128
1990/91	30	18	86	55	273	90	342.5	5	269	339[e]
1991/92	33	18	113	46	246	88	297.3	7	259	333[e]
1992/93[f]	22	11	50	23	80	25	51.5	5	63[e]	67

[a] September 1 through August 31.
[b] Unique vessels by fishing year.
[c] Cummulative count of vessel registrations in all fisheries for the fishing year.
[d] Includes some briefings for the next fishing year.
[e] Includes mid trip debriefings.
[f] Preliminary data, September 1 - December 15,1992.

Table 2. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year[a] 1990/1991.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
St. Matthew Blue King	7	3	10	3.7	4.2	1.2
Dutch Harbor Brown King	5	1	6	2.2	7.4	2.2
Bristol Bay Red King	20	15	35	12.8	19.6	5.7
Adak Brown King	8	0	21	7.7	32.5	9.0
Bering Sea Bairdi	19	18	42	15.4	50.2	14.7
Bering Sea Opilio	26	18	155	56.8	226.2	66.0
Miscellaneous	1	0	4	1.5	4.6	1.2
Totals	86	55	273	100	342.5	100

[a] September 1, 1990 through August 31, 1991.

Table 3. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year[a] 1991/1992.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
St. Matthew Blue King	9	2	11	4.5	5.3	1.8
Dutch Harbor Brown King	4	0	4	1.6	7.3	2.5
Bristol Bay Red King	25	14	39	15.9	19.8	6.7
Adak Brown King	9	0	25	10.2	38.8	13.0
Bering Sea Bairdi	27	12	51	20.7	64.5	21.7
Bering Sea Opilio	31	18	107	43.5	158.8	53.4
Miscellaneous	9	0	9	3.7	2.8	0.9
Totals	113	46	246	100	297.3	100

[a]September 1, 1991 through August 31, 1992.

Table 4. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year[a] 1992/1993.

Fishery	Registered Vessels C/P	Registered Vessels F/P	Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
St. Matthew Blue King	8	7	15		5.8	
Dutch Harbor Brown King	5	0	6		7.2	
Bristol Bay Red King	17	6	24		10.6	
Adak Brown King	2	1	3		2.6	
Bering Sea Bairdi	17	9	31		24.7	
Bering Sea Opilio	-	-	-		-	
Miscellaneous	1	0	1		.6	
Totals	50	23	80	-	51.5	-

[a]September 1, 1992 through December 15, 1992.

Table 5. Number of briefing, debriefing and mid trip debriefing sessions by month and by fishing year[a] from Sep. 1990 through Dec. 1992.

Date	Briefings			Debriefings			Mid Trips		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
SEP	9	12	5	11	11	17	N/A	1	0
OCT	36	38	23	5	3	5	N/A	2	0
NOV	38	46	32	41	46	27	N/A	4	3
DEC[b]	14	14	3	19	24	7	N/A	16	8
JAN	45	52		29	31		0	18	
FEB	18	19		23	21		15	20	
MAR	34	11		28	11		32	19	
APR	31	33		28	73		9	5	
MAY	27	3		30	5		6	0	
JUN	9	5		37	5		3	0	
JUL	5	9		18	3		1	1	
AUG	3	17[c]		4	13		0	1	
Totals	269	259	63	273	246	56	66	87	11

[a] September 1 through August 31.
[b] Includes through December 15.
[c] Includes briefings for the 1992/93 fishing year.

Table 6. Mandatory Shellfish Observer Program candidates by exam, including number passed, number of active certified observers and decertified observers.

Year	Number of Exams	Number of Candidates	Number Passed	Number Currently Certified	Number Decertified	
					Inactivity[a]	Other[b]
1988	3	95	82	12	58	12
1989	1	53	46	10	31	4
1990	3	32	25	10	14	1
1991	4	67	59	41	16	2
1992	2	41	39	39	0	0
Totals	13	288	250[c]	112	119	19

a Decertified due to 12 months shellfish observer employment inactivity.
b Decertified due to nonconformity to Shellfish Observer Program standards.
c A staff member from one of the observer contractors took exam #11, passed the exam and practicum but never intended to deploy as an observer. This individual is not included in the total.

Table 7. The number of observer trips and observer trips where evidence was collected, by fishery for the 1991/92 and 1992/93 fishing years.

Fishery\ Fishing Year	Number of Observer Trips	Observer Trips Where Evidence Was Collected	Percent of Evidence Trips [a]
St. Matthew - Blue King			
91/92	11	0	0
92/93	15	1	NA
Dutch Harbor - Brown King			
91/92	4	1	2.2
92/93	6	1	NA
Bristol Bay - Red King			
91/92	39	8	17.4
92/93	24	8	NA
Adak - Brown King			
91/92	25	7	15.2
92/93	NA	NA	NA
Bering Sea - Bairdi			
91/92	51	12	26.1
92/93	NA	NA	NA
Bering Sea - Opilio			
91/92	107	18	39.1
92/93	NA	NA	NA
Miscellaneous Fisheries			
91/92	9	0	0
92/93	1	0	0
SUMMARY			
91/92	246	46	18.7
92/93	NA	NA	NA

[a] Percentage of total evidence collected for the fishing year.
NA Not available.

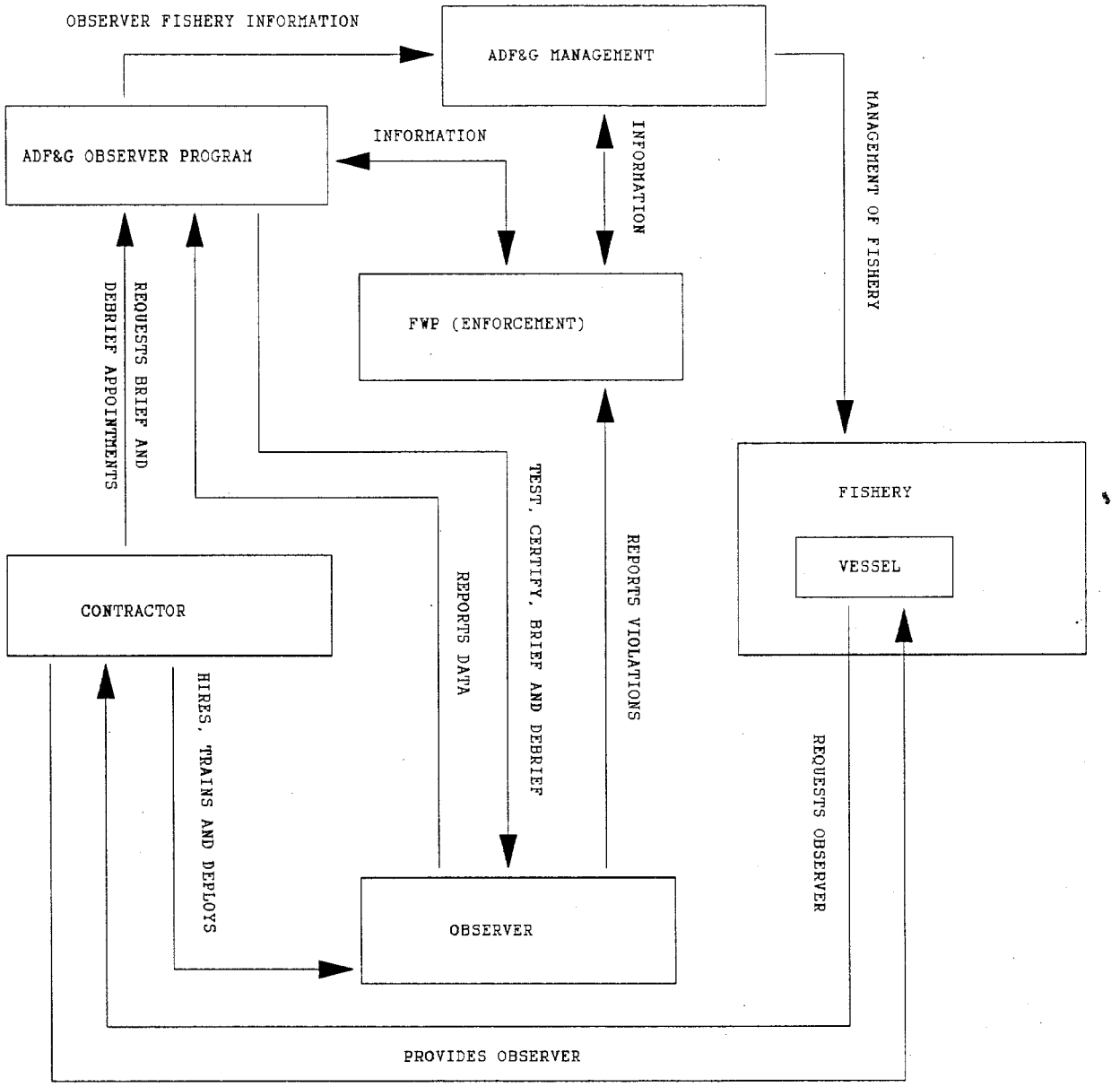

Figure 1. State of Alaska Mandatory Shellfish Observer Program organization flow diagram.

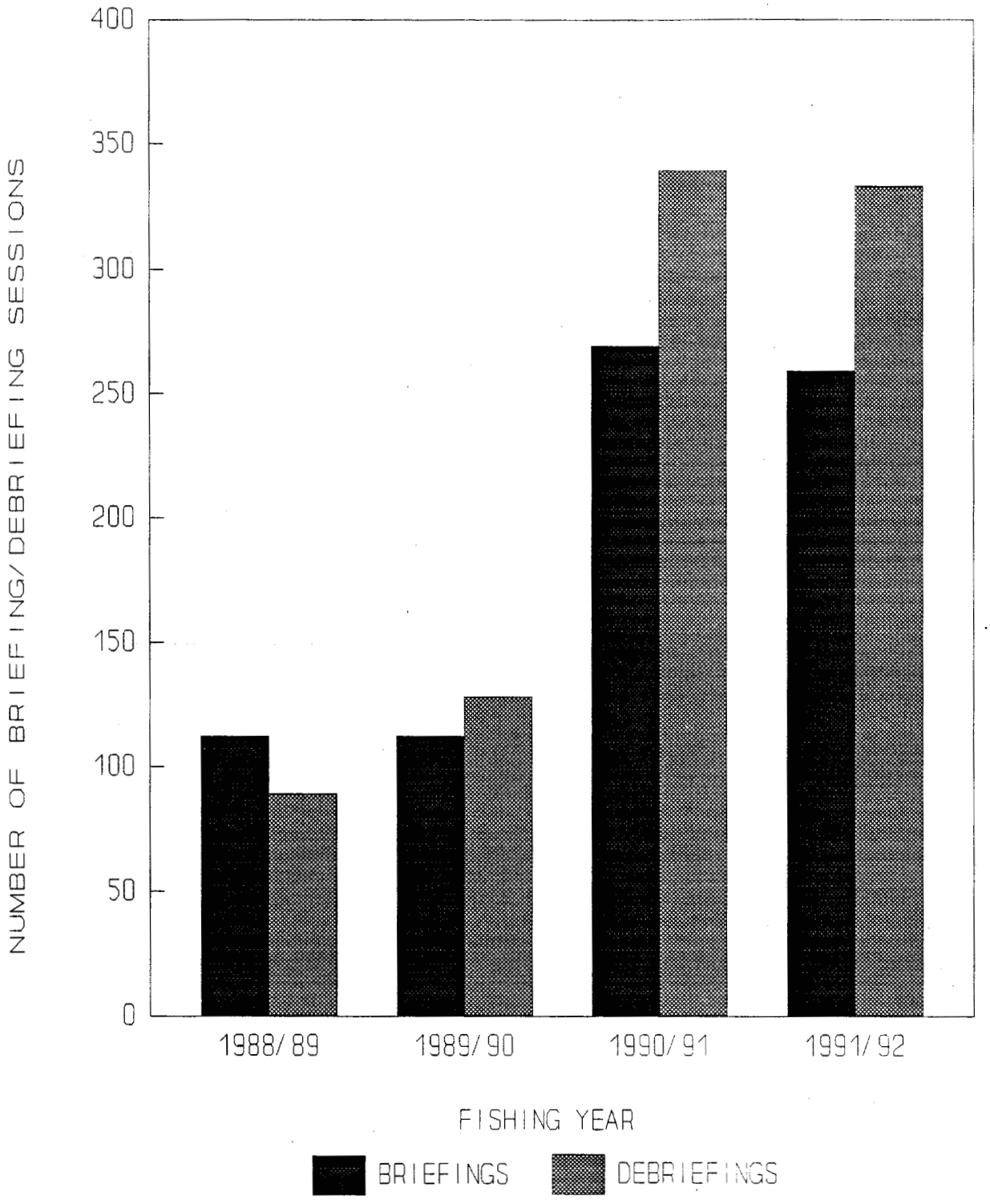

Figure 2 Number of briefing and debriefing sessions by fishing year from 1988/89 to 1991/92.

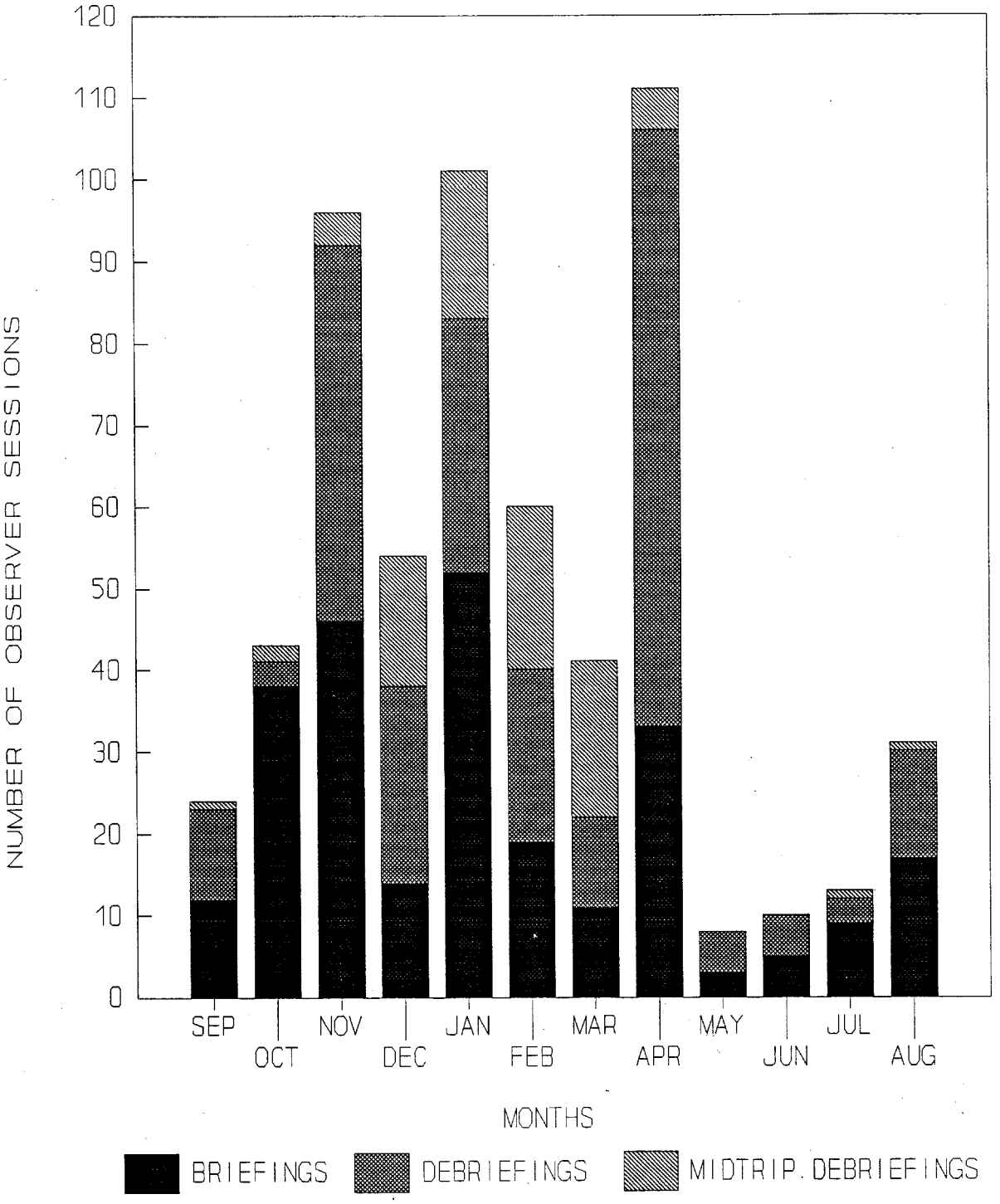

Figure 3 Number of observer sessions by month and session type (briefings, debriefings and mid-trip debriefings). For the fishing year 1991/92.

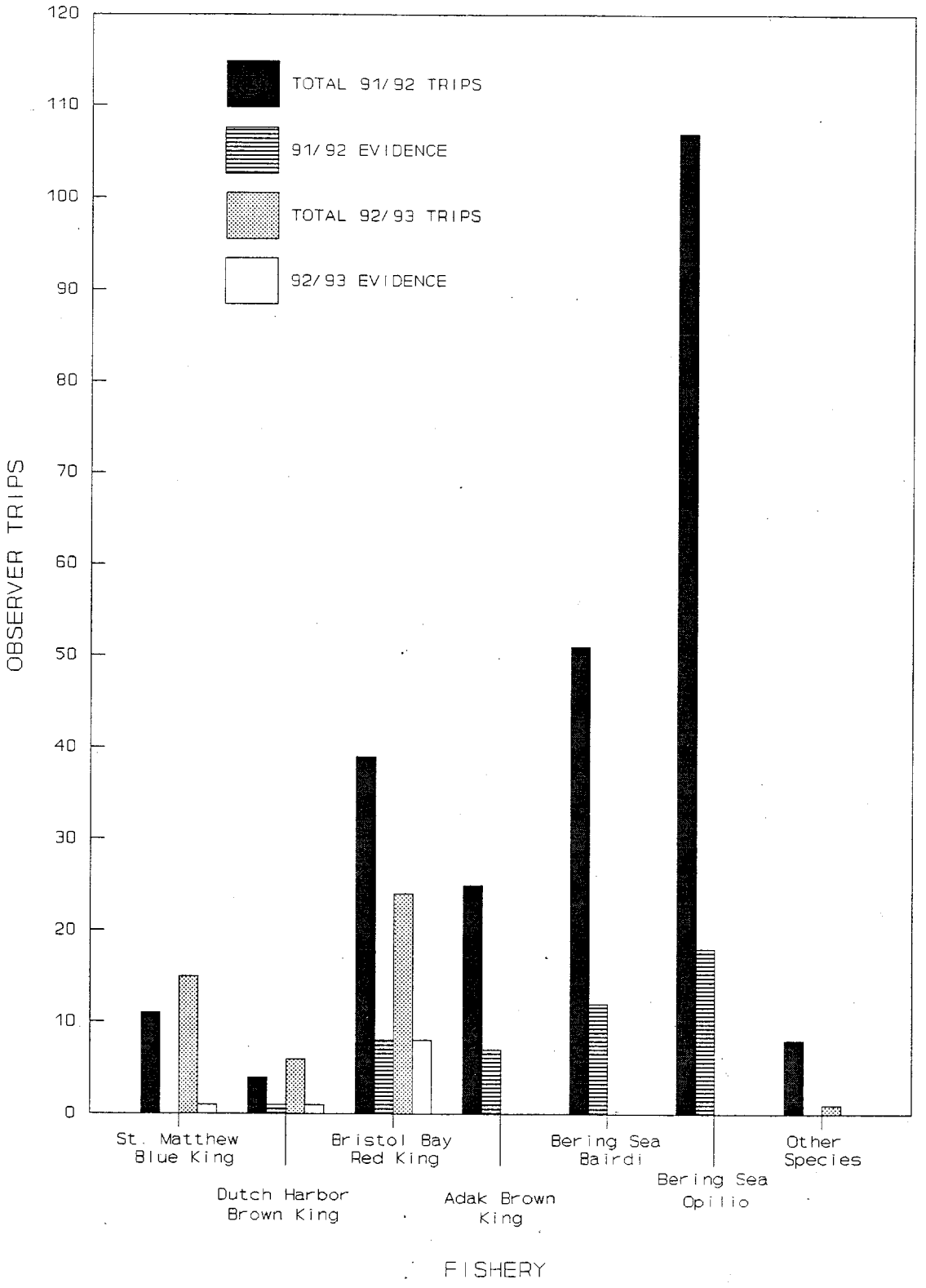

Figure 4. Number of observer trips and observer trips where evidence was collected for fishing years 1991/92 and 1992/93, by fishery.